

#5



SEQUENCE LISTING

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Malyankar, Uriel
Zhong, Haihong
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Wolenc, Adam

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<150> 60/259,743

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His Phe Trp Ile Ala Ile Pro Phe Cys Ala Met Tyr Leu Val Ala Leu
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Val His Ser Ile Tyr Ala Leu Glu Ser Ser Ile Leu Leu Ala Met Ala	
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Ser Val Ala Ile Val Ser Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro	
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Leu Thr Val Ala Leu Leu Ala Met Gly Leu Asp Ser Ile Leu Ile Ala	
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 145 150 155 160
 Ala Ile Val Ser Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys
 165 170 175
 Gly His Arg Val Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala
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 Arg Leu Ala Cys Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr
 195 200 205
 Val Ala Leu Leu Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser
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 Tyr Gly Phe Ile Leu His Ala Val Phe His Leu Pro Ser His Asp Ala
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 Gln His Lys Ala Leu Ser Thr Cys Gly Ser His Ile Gly Ile Ile Leu

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His His Glu Val Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr					
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Val Leu Val Pro Pro Val Leu Asn Pro Ile Leu Tyr Gly Ala Arg Thr					
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Val Gly Asn Ala Ala Leu Ile Leu Val Ile Ala Met Asp Asn Ala Leu	
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Leu Thr Val Ala Leu Leu Ala Met Gly Leu Asp Ser Ile Leu Ile Ala	
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 Ser Ser Thr Thr Val Pro Lys Met Leu Ala Ile Leu Trp Leu His Ala
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 Gly Glu Ile Ser Phe Gly Gly Cys Leu Ala Gln Met Phe Cys Val His
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 115 120 125
 Arg Tyr Val Ala Ile Cys Asn Pro Leu Arg Tyr Thr Thr Ile Leu Asn
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 His Ala Val Ile Gly Arg Ile Gly Phe Val Gly Leu Phe Arg Ser Val
 145 150 155 160
 Ala Ile Val Ser Pro Phe Ile Phe Leu Leu Arg Arg Leu Pro Tyr Cys
 165 170 175
 Gly His Arg Val Met Thr His Thr Tyr Cys Glu His Met Gly Ile Ala
 180 185 190
 Arg Leu Ala Cys Ala Asn Ile Thr Val Asn Ile Val Tyr Gly Leu Thr
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 Val Ala Leu Leu Ala Met Gly Leu Asp Ser Ile Leu Ile Ala Ile Ser
 210 215 220
 Tyr Gly Phe Ile Leu His Ala Val Phe His Leu Pro Ser His Asp Ala
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 Gln His Lys Ala Leu Ser Thr Cys Gly Ser His Ile Gly Ile Thr Leu
 245 250 255
 Val Phe Tyr Ile Pro Ala Phe Phe Ser Phe Leu Thr His Arg Phe Gly
 260 265 270

His His Glu Val Pro Lys His Val His Ile Phe Leu Ala Asn Leu Tyr
275 280 285

Val Leu Val Pro Pro Val Leu Asn Pro Ile Leu Tyr Gly Val Arg Thr
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Gly Leu Thr Asn His Gln Glu Leu Gln Ile Leu Leu Phe Met Leu Phe
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Leu Ile Gln Ala Asn Ala Arg Leu His Thr Pro Met Tyr Phe Phe Leu
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Ile Tyr Ile Leu Ala Val Met Ala Phe Asp Gln Tyr Met Ala Ile Arg
115 120 125

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Thr	Met	Trp	Thr	Tyr	Asn	Leu	Ala	Phe	Cys	Gly	Pro	Asn	Glu	Ile	Asn	
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cac	ttc	tac	tgt	gca	gac	cca	cca	ctg	att	aag	ctg	gct	tgt	tct	gac	576
His	Phe	Tyr	Cys	Ala	Asp	Pro	Pro	Leu	Ile	Lys	Leu	Ala	Cys	Ser	Asp	
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Thr	Cys	Gly	Ser	His	Leu	Thr	Ala	Val	Thr	Ile	Phe	Tyr	Ala	Thr	Leu	
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Phe	Phe	Met	Cys	Leu	Arg	Pro	Pro	Ser	Glu	Glu	Ser	Met	Glu	Gln	Gly	
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Gln	Met	Val	Ala	Val	Leu	Tyr	Thr	Thr	Val	Ile	Pro	Met	Leu	Ile	Pro	
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 Ile Tyr Met Val Thr Val Ala Gly Asn Leu Ser Met Ile Ala Leu Ile
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Trp	Thr	Tyr	Asn	Leu	Ala	Phe	Cys	Gly	Pro	Asn	Glu	Ile	Asn	His	Phe
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Gly	Ser	His	Leu	Thr	Ala	Val	Thr	Ile	Phe	Tyr	Ala	Thr	Leu	Phe	Phe
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Met	Cys	Leu	Arg	Pro	Pro	Ser	Glu	Glu	Ser	Met	Glu	Gln	Gly	Gln	Met
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Gly	Leu	Glu	Gln	Leu	His	Ile	Trp	Leu	Ser	Ile	Pro	Phe	Cys	Ile	Met	
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Tyr	Ile	Ala	Ala	Leu	Glu	Gly	Asn	Gly	Ile	Leu	Ile	Cys	Val	Ile	Leu	
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tcc	cag	gca	atc	ctg	cat	gag	ccc	atg	tac	ata	ttc	tta	tct	atg	ctg	244
Ser	Gln	Ala	Ile	Leu	His	Glu	Pro	Met	Tyr	Ile	Phe	Leu	Ser	Met	Leu	
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Ala	Ser	Ala	Asp	Val	Leu	Leu	Ser	Thr	Thr	Thr	Met	Pro	Lys	Ala	Leu	
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gcc	aat	ttg	tgg	cta	ggg	tat	agc	cac	att	tcc	ttt	gat	ggc	tgc	ctc	340
Ala	Asn	Leu	Trp	Leu	Gly	Tyr	Ser	His	Ile	Ser	Phe	Asp	Gly	Cys	Leu	
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act	cag	atg	ttc	ttc	att	cac	ttc	ctc	ttc	att	cac	tct	gct	gtc	ctg	388
Thr	Gln	Met	Phe	Phe	Ile	His	Phe	Leu	Phe	Ile	His	Ser	Ala	Val	Leu	
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Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ser	Pro	Leu	Arg	
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tat	gtc	aca	atc	ctc	aca	agc	aag	gtc	att	ggg	aag	atc	gtc	act	gcc	484
Tyr	Val	Thr	Ile	Leu	Thr	Ser	Lys	Val	Ile	Gly	Lys	Ile	Val	Thr	Ala	
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acc	ctg	agc	cgc	agc	ttc	atc	att	atg	ttt	cca	tcc	atc	ttt	ctc	ctt	532
Thr	Leu	Ser	Arg	Ser	Phe	Ile	Ile	Met	Phe	Pro	Ser	Ile	Phe	Leu	Leu	
			160					165					170			
gag	cac	ctg	cac	tat	tgc	cag	atc	aac	atc	att	gca	cac	aca	ttt	tgt	580
Glu	His	Leu	His	Tyr	Cys	Gln	Ile	Asn	Ile	Ile	Ala	His	Thr	Phe	Cys	
	175					180					185					
gag	cac	atg	ggc	att	gcc	cat	ctg	tcc	tgt	tct	gat	atc	tcc	atc	aat	628
Glu	His	Met	Gly	Ile	Ala	His	Leu	Ser	Cys	Ser	Asp	Ile	Ser	Ile	Asn	
	190				195						200					
gtc	tgg	tat	ggg	ttg	gca	gct	gct	ctt	ctc	tcc	aca	ggc	ctg	gac	atc	676
Val	Trp	Tyr	Gly	Leu	Ala	Ala	Ala	Leu	Leu	Ser	Thr	Gly	Leu	Asp	Ile	
	205				210					215					220	
atg	ctt	att	act	gtt	tcc	tac	atc	cac	atc	ctc	caa	gca	gtc	ttc	cgc	724

Met Leu Ile Thr Val Ser Tyr Ile His Ile Leu Gln Ala Val Phe Arg
 225 230 235

ctc ctt tct caa gat gcc cgc tcc aag gcc ctg agt acc tgt gga tcc 772
 Leu Leu Ser Gln Asp Ala Arg Ser Lys Ala Leu Ser Thr Cys Gly Ser
 240 245 250

cat atc tgt gtc atc cta ctc ttc tat gtc cct gcc ctt ttt tct gtc 820
 His Ile Cys Val Ile Leu Leu Phe Tyr Val Pro Ala Leu Phe Ser Val
 255 260 265

ttt gcc tac agg ttt ggt ggg aga agc atc cca tgc tat gtc cat att 868
 Phe Ala Tyr Arg Phe Gly Gly Arg Ser Ile Pro Cys Tyr Val His Ile
 270 275 280

ctc ctg gcc agc ctc tac gtt gtc att cct cct atg ctc aat ccc gtt 916
 Leu Leu Ala Ser Leu Tyr Val Val Ile Pro Pro Met Leu Asn Pro Val
 285 290 295 300

att tat gga gtg agg act aag cca ata ctg gaa ggg gct aag cag atg 964
 Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu Glu Gly Ala Lys Gln Met
 305 310 315

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 Phe Ser Asn Leu Ala Lys Gly Ser Lys
 320 325

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 <213> Homo sapiens

<400> 8
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 Leu His Ile Trp Leu Ser Ile Pro Phe Cys Ile Met Tyr Ile Ala Ala
 35 40 45
 Leu Glu Gly Asn Gly Ile Leu Ile Cys Val Ile Leu Ser Gln Ala Ile
 50 55 60
 Leu His Glu Pro Met Tyr Ile Phe Leu Ser Met Leu Ala Ser Ala Asp
 65 70 75 80
 Val Leu Leu Ser Thr Thr Thr Met Pro Lys Ala Leu Ala Asn Leu Trp
 85 90 95
 Leu Gly Tyr Ser His Ile Ser Phe Asp Gly Cys Leu Thr Gln Met Phe
 100 105 110
 Phe Ile His Phe Leu Phe Ile His Ser Ala Val Leu Leu Ala Met Ala
 115 120 125

Phe Asp Arg Tyr Val Ala Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile
 130 135 140
 Leu Thr Ser Lys Val Ile Gly Lys Ile Val Thr Ala Thr Leu Ser Arg
 145 150 155 160
 Ser Phe Ile Ile Met Phe Pro Ser Ile Phe Leu Leu Glu His Leu His
 165 170 175
 Tyr Cys Gln Ile Asn Ile Ile Ala His Thr Phe Cys Glu His Met Gly
 180 185 190
 Ile Ala His Leu Ser Cys Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly
 195 200 205
 Leu Ala Ala Ala Leu Leu Ser Thr Gly Leu Asp Ile Met Leu Ile Thr
 210 215 220
 Val Ser Tyr Ile His Ile Leu Gln Ala Val Phe Arg Leu Leu Ser Gln
 225 230 235 240
 Asp Ala Arg Ser Lys Ala Leu Ser Thr Cys Gly Ser His Ile Cys Val
 245 250 255
 Ile Leu Leu Phe Tyr Val Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg
 260 265 270
 Phe Gly Gly Arg Ser Ile Pro Cys Tyr Val His Ile Leu Leu Ala Ser
 275 280 285
 Leu Tyr Val Val Ile Pro Pro Met Leu Asn Pro Val Ile Tyr Gly Val
 290 295 300
 Arg Thr Lys Pro Ile Leu Glu Gly Ala Lys Gln Met Phe Ser Asn Leu
 305 310 315 320
 Ala Lys Gly Ser Lys
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 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (14)..(988)

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 Met Ala Leu Phe Ser Ala Asn Ser Ile Gly Ala Met
 1 5 10
 aac aac tct gac act cgc ata gca ggc tgc ttc ctc act ggc atc cct 97

Asn	Asn	Ser	Asp	Thr	Arg	Ile	Ala	Gly	Cys	Phe	Leu	Thr	Gly	Ile	Pro		
		15					20					25					
ggg	ctg	gag	caa	cta	cat	atc	tgg	ctg	tcc	atc	ccc	ttc	tgc	atc	atg	145	
Gly	Leu	Glu	Gln	Leu	His	Ile	Trp	Leu	Ser	Ile	Pro	Phe	Cys	Ile	Met		
	30					35				40							
tac	atc	act	gcc	ctg	gaa	ggc	aat	ggc	atc	cta	att	tgt	gtc	atc	ctc	193	
Tyr	Ile	Thr	Ala	Leu	Glu	Gly	Asn	Gly	Ile	Leu	Ile	Cys	Val	Ile	Leu		
	45				50				55						60		
tcc	cag	gca	atc	ctg	cat	gag	ccc	atg	tac	ata	ttc	tta	tct	atg	ctg	241	
Ser	Gln	Ala	Ile	Leu	His	Glu	Pro	Met	Tyr	Ile	Phe	Leu	Ser	Met	Leu		
				65				70						75			
gcc	agt	gct	gat	gtc	ttg	ctc	tct	acc	acc	acc	atg	cct	aag	gcc	ctg	289	
Ala	Ser	Ala	Asp	Val	Leu	Leu	Ser	Thr	Thr	Thr	Met	Pro	Lys	Ala	Leu		
			80					85					90				
gcc	aat	ttg	tgg	cta	ggt	tat	agc	ctc	att	tcc	ttt	gat	ggc	tgc	ctc	337	
Ala	Asn	Leu	Trp	Leu	Gly	Tyr	Ser	Leu	Ile	Ser	Phe	Asp	Gly	Cys	Leu		
	95					100						105					
act	cag	atg	ttc	ttc	att	cac	ttc	ctc	ttc	att	cac	tct	gct	gtc	ctg	385	
Thr	Gln	Met	Phe	Phe	Ile	His	Phe	Leu	Phe	Ile	His	Ser	Ala	Val	Leu		
	110					115					120						
ctg	gcc	atg	gcc	ttt	gac	cgc	tat	gtg	gcc	atc	tgc	tcc	ccc	ctg	cga	433	
Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ser	Pro	Leu	Arg		
	125				130					135					140		
tat	gtc	aca	atc	ctc	aca	agc	aag	gtc	att	ggg	aag	atc	gtc	act	gcc	481	
Tyr	Val	Thr	Ile	Leu	Thr	Ser	Lys	Val	Ile	Gly	Lys	Ile	Val	Thr	Ala		
				145				150						155			
gcc	ctg	agc	cac	agc	ttc	atc	att	atg	ttt	cca	tcc	atc	ttt	ctc	ctt	529	
Ala	Leu	Ser	His	Ser	Phe	Ile	Ile	Met	Phe	Pro	Ser	Ile	Phe	Leu	Leu		
			160					165					170				
gag	cac	ctg	cac	tat	tgc	cag	atc	aat	atc	att	gca	cac	aca	ttt	tgt	577	
Glu	His	Leu	His	Tyr	Cys	Gln	Ile	Asn	Ile	Ile	Ala	His	Thr	Phe	Cys		
		175				180						185					
gag	cac	atg	ggc	att	gcc	cat	ctg	tcc	tgt	tct	gat	atc	tcc	atc	aat	625	
Glu	His	Met	Gly	Ile	Ala	His	Leu	Ser	Cys	Ser	Asp	Ile	Ser	Ile	Asn		
		190				195					200						
gtc	tgg	tat	ggg	ttg	gca	gct	gct	ctt	ctc	tcc	aca	ggc	cta	gac	atc	673	
Val	Trp	Tyr	Gly	Leu	Ala	Ala	Ala	Leu	Leu	Ser	Thr	Gly	Leu	Asp	Ile		
	205				210					215					220		
atg	ctt	att	act	gtt	tcc	tac	atc	cac	atc	ctc	caa	gca	gtc	ttc	cgc	721	
Met	Leu	Ile	Thr	Val	Ser	Tyr	Ile	His	Ile	Leu	Gln	Ala	Val	Phe	Arg		
				225					230					235			
ctc	ctt	tct	caa	gat	gcc	cgc	tcc	aag	gcc	ctg	agt	acc	tgt	gga	tcc	769	
Leu	Leu	Ser	Gln	Asp	Ala	Arg	Ser	Lys	Ala	Leu	Ser	Thr	Cys	Gly	Ser		

240	245	250	
cat atc tgt gtc atc cta ctc ttc tat gtc cct gcg ctt ttt tct gtc			817
His Ile Cys Val Ile Leu Leu Phe Tyr Val Pro Ala Leu Phe Ser Val			
255	260	265	
ttt gcc tac agg ttt ggt ggg aga agc gtc cca tgc tat gtc cat att			865
Phe Ala Tyr Arg Phe Gly Gly Arg Ser Val Pro Cys Tyr Val His Ile			
270	275	280	
ctc ctg gcc agc ctc tac gtt gtc att cct cct atg ctc aat ccc gtt			913
Leu Leu Ala Ser Leu Tyr Val Val Ile Pro Pro Met Leu Asn Pro Val			
285	290	295	300
att tat gga gtg agg act aag cca ata ctg gaa ggg gct aag cag atg			961
Ile Tyr Gly Val Arg Thr Lys Pro Ile Leu Glu Gly Ala Lys Gln Met			
305	310	315	
ttt tca aat ctt gcc aaa gga tct aaa taaatgctt			997
Phe Ser Asn Leu Ala Lys Gly Ser Lys			
320	325		

<210> 10
 <211> 325
 <212> PRT
 <213> Homo sapiens

<400> 10
 Met Ala Leu Phe Ser Ala Asn Ser Ile Gly Ala Met Asn Asn Ser Asp
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 Thr Arg Ile Ala Gly Cys Phe Leu Thr Gly Ile Pro Gly Leu Glu Gln
 20 25 30
 Leu His Ile Trp Leu Ser Ile Pro Phe Cys Ile Met Tyr Ile Thr Ala
 35 40 45
 Leu Glu Gly Asn Gly Ile Leu Ile Cys Val Ile Leu Ser Gln Ala Ile
 50 55 60
 Leu His Glu Pro Met Tyr Ile Phe Leu Ser Met Leu Ala Ser Ala Asp
 65 70 75 80
 Val Leu Leu Ser Thr Thr Thr Met Pro Lys Ala Leu Ala Asn Leu Trp
 85 90 95
 Leu Gly Tyr Ser Leu Ile Ser Phe Asp Gly Cys Leu Thr Gln Met Phe
 100 105 110
 Phe Ile His Phe Leu Phe Ile His Ser Ala Val Leu Leu Ala Met Ala
 115 120 125
 Phe Asp Arg Tyr Val Ala Ile Cys Ser Pro Leu Arg Tyr Val Thr Ile
 130 135 140
 Leu Thr Ser Lys Val Ile Gly Lys Ile Val Thr Ala Ala Leu Ser His

145		150		155		160
Ser Phe Ile Ile Met Phe Pro Ser Ile Phe Leu Leu Glu His Leu His						
	165			170		175
Tyr Cys Gln Ile Asn Ile Ile Ala His Thr Phe Cys Glu His Met Gly						
	180			185		190
Ile Ala His Leu Ser Cys Ser Asp Ile Ser Ile Asn Val Trp Tyr Gly						
	195			200		205
Leu Ala Ala Ala Leu Leu Ser Thr Gly Leu Asp Ile Met Leu Ile Thr						
	210			215		220
Val Ser Tyr Ile His Ile Leu Gln Ala Val Phe Arg Leu Leu Ser Gln						
	225			230		235
Asp Ala Arg Ser Lys Ala Leu Ser Thr Cys Gly Ser His Ile Cys Val						
	245			250		255
Ile Leu Leu Phe Tyr Val Pro Ala Leu Phe Ser Val Phe Ala Tyr Arg						
	260			265		270
Phe Gly Gly Arg Ser Val Pro Cys Tyr Val His Ile Leu Leu Ala Ser						
	275			280		285
Leu Tyr Val Val Ile Pro Pro Met Leu Asn Pro Val Ile Tyr Gly Val						
	290			295		300
Arg Thr Lys Pro Ile Leu Glu Gly Ala Lys Gln Met Phe Ser Asn Leu						
	305			310		315
Ala Lys Gly Ser Lys						
	325					

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 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (21)..(968)

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 Met Ser Ala Pro Asn His Ser Thr Ala Asn His
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gat atg ttt gtc ctc att ggc gtt cct ggc ctg aag gag ctg cac gtg 101
 Asp Met Phe Val Leu Ile Gly Val Pro Gly Leu Lys Glu Leu His Val
 15 20 25

tgg atc tcc atc ccc ttc tgt ctg atg tac ctg gtg gct gtg tca gga 149
 Trp Ile Ser Ile Pro Phe Cys Leu Met Tyr Leu Val Ala Val Ser Gly

30	35	40	
aat ggt ctc ctt gtc tgt gtg gtg gca gtg gag cac agt ctt cat gaa			197
Asn Gly Leu Leu Val Cys Val Val Ala Val Glu His Ser Leu His Glu			
45	50	55	
cct atg tac ctt ttc ctc tcc atg ctg gca ttt tgg gat ctg att cta			245
Pro Met Tyr Leu Phe Leu Ser Met Leu Ala Phe Trp Asp Leu Ile Leu			
60	65	70	75
tcc aca tct gca gta ccc aaa gcc ttg agc att ttc tgg ttt gat gat			293
Ser Thr Ser Ala Val Pro Lys Ala Leu Ser Ile Phe Trp Phe Asp Asp			
	80	85	90
gtg gac atc tcc ttt ggt ggc tgt gtc act cag ctc ttt ttt atg cat			341
Val Asp Ile Ser Phe Gly Gly Cys Val Thr Gln Leu Phe Phe Met His			
	95	100	105
ttt gcc ttt gta gcg gag tca ggc att ctc ttg acc atg gct ttc gac			389
Phe Ala Phe Val Ala Glu Ser Gly Ile Leu Leu Thr Met Ala Phe Asp			
	110	115	120
cgc tat gtg gcc atc tgc tac cca ttg agg tat agc acc ata ctt agc			437
Arg Tyr Val Ala Ile Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Ser			
	125	130	135
cac agt gtt att ggc aaa att ggg ggt gtc gtg gtg ttc agg agt ttt			485
His Ser Val Ile Gly Lys Ile Gly Gly Val Val Val Phe Arg Ser Phe			
	140	145	150
gca act gtc ttc tcc atc gtc ttc ctt gtg aag cgt ctg ccc ttc tgc			533
Ala Thr Val Phe Ser Ile Val Phe Leu Val Lys Arg Leu Pro Phe Cys			
	160	165	170
cgg aca aac atc att gcc cac acc ttc tgt gaa cac atg ggg ctg gca			581
Arg Thr Asn Ile Ile Ala His Thr Phe Cys Glu His Met Gly Leu Ala			
	175	180	185
aag cta ggt tgt tct gaa atc acc atc aat att tgg tat gga atc tct			629
Lys Leu Gly Cys Ser Glu Ile Thr Ile Asn Ile Trp Tyr Gly Ile Ser			
	190	195	200
gta cca cta ctc agt gtt acg tta gat atg gtg aca ata gtc atc tcc			677
Val Pro Leu Leu Ser Val Thr Leu Asp Met Val Thr Ile Val Ile Ser			
	205	210	215
cag ggg ctc ata gtt caa gca gtc ttc agg ctg ccc tcc ctt ggt gct			725
Gln Gly Leu Ile Val Gln Ala Val Phe Arg Leu Pro Ser Leu Gly Ala			
	220	225	230
tgg atg aaa gca ctc agc acc tgt ggt tcc cat ggc agt gtc atc ctc			773
Trp Met Lys Ala Leu Ser Thr Cys Gly Ser His Gly Ser Val Ile Leu			
	240	245	250
atg ttc tgc ctt cca gga att ttc act gtc att gtt cag cgc ttt gcc			821
Met Phe Cys Leu Pro Gly Ile Phe Thr Val Ile Val Gln Arg Phe Ala			
	255	260	265

cga aaa ttt ccc aag tat gtc cac atc ctg ctg gcc aat ctc tat gtt 869
 Arg Lys Phe Pro Lys Tyr Val His Ile Leu Leu Ala Asn Leu Tyr Val
 270 275 280

ctt gtt ccc ccc atg atg aac cca att atc tat gga gta aag act aaa 917
 Leu Val Pro Pro Met Met Asn Pro Ile Ile Tyr Gly Val Lys Thr Lys
 285 290 295

cag att cag aaa ggg gtt gcc ctt gtg ttt tct cca aaa gga aaa tgt 965
 Gln Ile Gln Lys Gly Val Ala Leu Val Phe Ser Pro Lys Gly Lys Cys
 300 305 310 315

tgc tgagg 973
 Cys

<210> 12
 <211> 316
 <212> PRT
 <213> Homo sapiens

<400> 12
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Ile Gly Val Pro Gly Leu Lys Glu Leu His Val Trp Ile Ser Ile Pro
 20 25 30

Phe Cys Leu Met Tyr Leu Val Ala Val Ser Gly Asn Gly Leu Leu Val
 35 40 45

Cys Val Val Ala Val Glu His Ser Leu His Glu Pro Met Tyr Leu Phe
 50 55 60

Leu Ser Met Leu Ala Phe Trp Asp Leu Ile Leu Ser Thr Ser Ala Val
 65 70 75 80

Pro Lys Ala Leu Ser Ile Phe Trp Phe Asp Asp Val Asp Ile Ser Phe
 85 90 95

Gly Gly Cys Val Thr Gln Leu Phe Phe Met His Phe Ala Phe Val Ala
 100 105 110

Glu Ser Gly Ile Leu Leu Thr Met Ala Phe Asp Arg Tyr Val Ala Ile
 115 120 125

Cys Tyr Pro Leu Arg Tyr Ser Thr Ile Leu Ser His Ser Val Ile Gly
 130 135 140

Lys Ile Gly Gly Val Val Val Phe Arg Ser Phe Ala Thr Val Phe Ser
 145 150 155 160

Ile Val Phe Leu Val Lys Arg Leu Pro Phe Cys Arg Thr Asn Ile Ile
 165 170 175

Ala His Thr Phe Cys Glu His Met Gly Leu Ala Lys Leu Gly Cys Ser

180										185										190																																		
Glu	Ile	Thr	Ile	Asn	Ile	Trp	Tyr	Gly	Ile	Ser	Val	Pro	Leu	Leu	Ser																																							
Val	Thr	Leu	Asp	Met	Val	Thr	Ile	Val	Ile	Ser	Gln	Gly	Leu	Ile	Val																																							
Gln	Ala	Val	Phe	Arg	Leu	Pro	Ser	Leu	Gly	Ala	Trp	Met	Lys	Ala	Leu																																							
Ser	Thr	Cys	Gly	Ser	His	Gly	Ser	Val	Ile	Leu	Met	Phe	Cys	Leu	Pro																																							
Gly	Ile	Phe	Thr	Val	Ile	Val	Gln	Arg	Phe	Ala	Arg	Lys	Phe	Pro	Lys																																							
Tyr	Val	His	Ile	Leu	Leu	Ala	Asn	Leu	Tyr	Val	Leu	Val	Pro	Pro	Met																																							
Met	Asn	Pro	Ile	Ile	Tyr	Gly	Val	Lys	Thr	Lys	Gln	Ile	Gln	Lys	Gly																																							
Val	Ala	Leu	Val	Phe	Ser	Pro	Lys	Gly	Lys	Cys	Cys																																											

<210> 13
 <211> 937
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (17)..(934)

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 Met Thr Leu Gln Gly Gln Glu Phe Ile Leu Leu Gly
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tta aca gac cag cct gag atc caa ttg ccc ctg ttt ttc ctg ttc ttg 100
 Leu Thr Asp Gln Pro Glu Ile Gln Leu Pro Leu Phe Phe Leu Phe Leu
 15 20 25

gtg aac tat atg acc acc atg gtg ggc aac ttg agt tta att aat cta 148
 Val Asn Tyr Met Thr Thr Met Val Gly Asn Leu Ser Leu Ile Asn Leu
 30 35 40

att tgc ctg aat tca cac ctt cac act ccc atg tat ttt ttc ctt ttc 196
 Ile Cys Leu Asn Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe
 45 50 55 60

aat ctg tcc ttc att gat ctc tgt tat tca ttt gtc ttt acc ccc aaa 244
 Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Phe Val Phe Thr Pro Lys
 65 70 75

atg ctg atg agc ttt att tca gag agg aac atc atc tcc ttt cca gga	292
Met Leu Met Ser Phe Ile Ser Glu Arg Asn Ile Ile Ser Phe Pro Gly	
80 85 90	
tgc ata act cag ctc ttt ttc ttc tgc ttt ttt gtc cac tct gag tgc	340
Cys Ile Thr Gln Leu Phe Phe Phe Cys Phe Phe Val His Ser Glu Cys	
95 100 105	
tat gtg ctg aca gcc atg gcc tat gat cgc tat gtg gcc atc tgc aaa	388
Tyr Val Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys	
110 115 120	
ccc ctt ctg tac atg gtc acc acg tcc cct cag atc tgt tct cta ctg	436
Pro Leu Leu Tyr Met Val Thr Thr Ser Pro Gln Ile Cys Ser Leu Leu	
125 130 135 140	
atg ctt ggt tca tat gtg atg ggg ttt gct ggg gcc atg gtc cac aca	484
Met Leu Gly Ser Tyr Val Met Gly Phe Ala Gly Ala Met Val His Thr	
145 150 155	
gag tgt atg atg aag ctc atc ttt tgt gac tcc aac gtc atc aac cat	532
Glu Cys Met Met Lys Leu Ile Phe Cys Asp Ser Asn Val Ile Asn His	
160 165 170	
tac atg tgt gac atc ttc cca ctg ctc cag ctc tcc tgc agc agc acc	580
Tyr Met Cys Asp Ile Phe Pro Leu Leu Gln Leu Ser Cys Ser Ser Thr	
175 180 185	
cag gcc aat gag ctg gtg atg tct gtt att gta ggc aca gtt gtt ata	628
Gln Ala Asn Glu Leu Val Met Ser Val Ile Val Gly Thr Val Val Ile	
190 195 200	
gta tca agc ctc att atc tta atc tct tat gct ttg att ctt ttc aat	676
Val Ser Ser Leu Ile Ile Leu Ile Ser Tyr Ala Leu Ile Leu Phe Asn	
205 210 215 220	
atc ctt cac atg tcc tca gcc gag ggt tgg ttc aaa gcc atc ggt acc	724
Ile Leu His Met Ser Ser Ala Glu Gly Trp Phe Lys Ala Ile Gly Thr	
225 230 235	
tgt ggc tcc cac ata ata act gtt ggc cta ttc tat gaa ttt ggg ctg	772
Cys Gly Ser His Ile Ile Thr Val Gly Leu Phe Tyr Glu Phe Gly Leu	
240 245 250	
atc act cat gtt aag tta tca tct gat tgg tat atg ggt cag ggg aag	820
Ile Thr His Val Lys Leu Ser Ser Asp Trp Tyr Met Gly Gln Gly Lys	
255 260 265	
ttt ctc tca gtg ttt tac acg aat gtg gta ccc atg ctg aac ccc ctc	868
Phe Leu Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu	
270 275 280	
att tat agc ctc agg aac aag gat gtc aaa ctt gct cta aag gaa acc	916
Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Leu Ala Leu Lys Glu Thr	
285 290 295 300	

cta aat aaa att aca aac tga
 Leu Asn Lys Ile Thr Asn
 305

937

<210> 14
 <211> 306
 <212> PRT
 <213> Homo sapiens

<400> 14

Met Thr Leu Gln Gly Gln Glu Phe Ile Leu Leu Gly Leu Thr Asp Gln
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 Pro Glu Ile Gln Leu Pro Leu Phe Phe Leu Phe Leu Val Asn Tyr Met
 20 25 30
 Thr Thr Met Val Gly Asn Leu Ser Leu Ile Asn Leu Ile Cys Leu Asn
 35 40 45
 Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Phe Asn Leu Ser Phe
 50 55 60
 Ile Asp Leu Cys Tyr Ser Phe Val Phe Thr Pro Lys Met Leu Met Ser
 65 70 75 80
 Phe Ile Ser Glu Arg Asn Ile Ile Ser Phe Pro Gly Cys Ile Thr Gln
 85 90 95
 Leu Phe Phe Phe Cys Phe Phe Val His Ser Glu Cys Tyr Val Leu Thr
 100 105 110
 Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr
 115 120 125
 Met Val Thr Thr Ser Pro Gln Ile Cys Ser Leu Leu Met Leu Gly Ser
 130 135 140
 Tyr Val Met Gly Phe Ala Gly Ala Met Val His Thr Glu Cys Met Met
 145 150 155 160
 Lys Leu Ile Phe Cys Asp Ser Asn Val Ile Asn His Tyr Met Cys Asp
 165 170 175
 Ile Phe Pro Leu Leu Gln Leu Ser Cys Ser Ser Thr Gln Ala Asn Glu
 180 185 190
 Leu Val Met Ser Val Ile Val Gly Thr Val Val Ile Val Ser Ser Leu
 195 200 205
 Ile Ile Leu Ile Ser Tyr Ala Leu Ile Leu Phe Asn Ile Leu His Met
 210 215 220
 Ser Ser Ala Glu Gly Trp Phe Lys Ala Ile Gly Thr Cys Gly Ser His
 225 230 235 240
 Ile Ile Thr Val Gly Leu Phe Tyr Glu Phe Gly Leu Ile Thr His Val

	245		250		255
Lys Leu Ser Ser Asp Trp Tyr Met Gly Gln Gly Lys Phe Leu Ser Val					
	260		265		270
Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu					
	275		280		285
Arg Asn Lys Asp Val Lys Leu Ala Leu Lys Glu Thr Leu Asn Lys Ile					
	290		295		300
Thr Asn					
305					

<210> 15
 <211> 958
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (8)..(946)

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Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu	
1 5 10	
gct gga tta aca gat cat cca gag ttc cgg caa ccc ctc ttt ttc ctg	97
Ala Gly Leu Thr Asp His Pro Glu Phe Arg Gln Pro Leu Phe Phe Leu	
15 20 25 30	
ttt cta gtg atc tac att gtc acc atg gta ggc aac ctt ggc ttg atc	145
Phe Leu Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile	
35 40 45	
act ctt ttc ggt cta aat tct cac ctc cac aca cca atg tac tat ttc	193
Thr Leu Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe	
50 55 60	
ctc ttc aat ctc tcc ttc att gat ctc tgt tac tcc tct gtt ttc act	241
Leu Phe Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr	
65 70 75	
ccc aaa atg cta atg aac ttt gtg tca aaa aag aat att atc tcc aat	289
Pro Lys Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn	
80 85 90	
gtt ggg tgc atg act cgg ctg ttt ttc ttt ctc ttt ttc gtc atc tct	337
Val Gly Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser	
95 100 105 110	
gaa tgt tac atg ttg act tca atg gca tat gat cgc tat gtg gcc atc	385
Glu Cys Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile	
115 120 125	

tgt aat cca ttg ctg tat aag gtc acc atg tcc cat cag gtc tgt tct	433
Cys Asn Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser	
130 135 140	
atg ctc act ttt gct gct tac ata atg gga ttg gct gga gcc acg gcc	481
Met Leu Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala	
145 150 155	
cac acc ggg tgc atg ctt aga ctc acc ttc tgc agt gct aat atc atc	529
His Thr Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile	
160 165 170	
aac cat tac ttg tgt gac ata ctc ccc ctc ctc cag ctt tcc tgc acc	577
Asn His Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr	
175 180 185 190	
agc acc tat gtc aac gag gtg gtt gtt ctc att gtt gtg ggt act aat	625
Ser Thr Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn	
195 200 205	
atc acg gta ccc agt tgt acc atc ctc att tct tat gtt ttc att gtc	673
Ile Thr Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val	
210 215 220	
act agc att ctt cat atc aaa tcc act caa gga aga tca aaa gcc ttc	721
Thr Ser Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe	
225 230 235	
agt act tgt agc tct cat gtc att gct ctg tct ctg ttt ttt ggg tca	769
Ser Thr Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser	
240 245 250	
gcg gca ttc atg tat att aaa tat tct tct gga tct atg gag cag gga	817
Ala Ala Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly	
255 260 265 270	
aaa gtt tct tct gtt ttc tac act aat gtg gtg ccc atg ctc aat ccc	865
Lys Val Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro	
275 280 285	
ctc atc tac agt ttg agg aac aag gat gtc aaa gtt gca ctg agg aaa	913
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys	
290 295 300	
gct ctg att aaa att cag agg aga aat ata ttc taattagaag ca	958
Ala Leu Ile Lys Ile Gln Arg Arg Asn Ile Phe	
305 310	

<210> 16

<211> 313

<212> PRT

<213> Homo sapiens

<400> 16

Met Leu Ala Arg Asn Asn Ser Leu Val Thr Glu Phe Ile Leu Ala Gly

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Leu Thr Asp His Pro Glu Phe Arg Gln Pro Leu Phe Phe Leu Phe Leu	20	25	30
Val Ile Tyr Ile Val Thr Met Val Gly Asn Leu Gly Leu Ile Thr Leu	35	40	45
Phe Gly Leu Asn Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Phe	50	55	60
Asn Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Phe Thr Pro Lys	65	70	75
Met Leu Met Asn Phe Val Ser Lys Lys Asn Ile Ile Ser Asn Val Gly	85	90	95
Cys Met Thr Arg Leu Phe Phe Phe Leu Phe Phe Val Ile Ser Glu Cys	100	105	110
Tyr Met Leu Thr Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Asn	115	120	125
Pro Leu Leu Tyr Lys Val Thr Met Ser His Gln Val Cys Ser Met Leu	130	135	140
Thr Phe Ala Ala Tyr Ile Met Gly Leu Ala Gly Ala Thr Ala His Thr	145	150	155
Gly Cys Met Leu Arg Leu Thr Phe Cys Ser Ala Asn Ile Ile Asn His	165	170	175
Tyr Leu Cys Asp Ile Leu Pro Leu Leu Gln Leu Ser Cys Thr Ser Thr	180	185	190
Tyr Val Asn Glu Val Val Val Leu Ile Val Val Gly Thr Asn Ile Thr	195	200	205
Val Pro Ser Cys Thr Ile Leu Ile Ser Tyr Val Phe Ile Val Thr Ser	210	215	220
Ile Leu His Ile Lys Ser Thr Gln Gly Arg Ser Lys Ala Phe Ser Thr	225	230	235
Cys Ser Ser His Val Ile Ala Leu Ser Leu Phe Phe Gly Ser Ala Ala	245	250	255
Phe Met Tyr Ile Lys Tyr Ser Ser Gly Ser Met Glu Gln Gly Lys Val	260	265	270
Ser Ser Val Phe Tyr Thr Asn Val Val Pro Met Leu Asn Pro Leu Ile	275	280	285
Tyr Ser Leu Arg Asn Lys Asp Val Lys Val Ala Leu Arg Lys Ala Leu	290	295	300
Ile Lys Ile Gln Arg Arg Asn Ile Phe			

305

310

<210> 17

<211> 954

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (2)..(943)

<400> 17

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Met Asp Ser Ser Leu Cys Thr Phe Pro Glu Val Ala His Glu Phe Ile

1

5

10

15

ctg gca ggc ttg aca caa cgc cca gaa ctt caa ctg cca ctc ttc ctc 97

Leu Ala Gly Leu Thr Gln Arg Pro Glu Leu Gln Leu Pro Leu Phe Leu

20

25

30

ctg ttc ctt gga ata tat gtg gtc aca gtg gtg ggg aac ctg ggc atg 145

Leu Phe Leu Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met

35

40

45

atc ttc tta att gct ctc agt tct caa ctt tac cct cca gtg tat tat 193

Ile Phe Leu Ile Ala Leu Ser Ser Gln Leu Tyr Pro Pro Val Tyr Tyr

50

55

60

ttt ctc agt cat ttg tct ttc att gat ctc tgc tac tcc tct gtc att 241

Phe Leu Ser His Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile

65

70

75

80

acc cct aag atg ctg gtg aac ttt gtt cca gag gag aac att atc tcc 289

Thr Pro Lys Met Leu Val Asn Phe Val Pro Glu Glu Asn Ile Ile Ser

85

90

95

ttt ctg gaa tgc att act caa ctt tat ttc ttc ctt att ttt gta att 337

Phe Leu Glu Cys Ile Thr Gln Leu Tyr Phe Phe Leu Ile Phe Val Ile

100

105

110

gca gaa ggc tac ctt ctg aca gcc atg gaa tat gac cgt tat gtt gct 385

Ala Glu Gly Tyr Leu Leu Thr Ala Met Glu Tyr Asp Arg Tyr Val Ala

115

120

125

atc tgt cgc cca ctg ctt tac aat att gtc atg tcc cac agg gtc tgt 433

Ile Cys Arg Pro Leu Leu Tyr Asn Ile Val Met Ser His Arg Val Cys

130

135

140

tcc ata atg atg gct gtg gta tac tca ctg ggt ttt ctg tgg gcc aca 481

Ser Ile Met Met Ala Val Tyr Ser Leu Gly Phe Leu Trp Ala Thr

145

150

155

160

gtc cat act acc cgc atg tca gtg ttg tca ttc tgt agg tct cat acg 529

Val His Thr Thr Arg Met Ser Val Leu Ser Phe Cys Arg Ser His Thr

165

170

175

gtc agt cat tat ttt tgt gat att ctc ccc tta ttg act ctg tct tgc 577
 Val Ser His Tyr Phe Cys Asp Ile Leu Pro Leu Leu Thr Leu Ser Cys
 180 185 190
 tcc agc acc cac atc aat gag att ctg ctg ttc att att gga gga gtt 625
 Ser Ser Thr His Ile Asn Glu Ile Leu Leu Phe Ile Ile Gly Gly Val
 195 200 205
 aat acc tta gca act aca ctg gcg gtc ctt atc tct tat gct ttc att 673
 Asn Thr Leu Ala Thr Thr Leu Ala Val Leu Ile Ser Tyr Ala Phe Ile
 210 215 220
 ttc tct agt atc ctt ggt att cat tcc act gag ggg caa tcc aaa gcc 721
 Phe Ser Ser Ile Leu Gly Ile His Ser Thr Glu Gly Gln Ser Lys Ala
 225 230 235 240
 ttt ggc act tgt agc tcc cat ctc ttg gct gtg ggc atc ttt ttt ggg 769
 Phe Gly Thr Cys Ser Ser His Leu Leu Ala Val Gly Ile Phe Phe Gly
 245 250 255
 tct ata aca ttc atg tat ttc aag ccc cct tcc agc act act atg gaa 817
 Ser Ile Thr Phe Met Tyr Phe Lys Pro Pro Ser Ser Thr Thr Met Glu
 260 265 270
 aaa gag aag gtg tct tct gtg ttc tac atc aca ata atc ccc atg ctg 865
 Lys Glu Lys Val Ser Ser Val Phe Tyr Ile Thr Ile Ile Pro Met Leu
 275 280 285
 aat cct cta atc tat agc ctg agg aac aag gat gtg aaa aat gca ctg 913
 Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu
 290 295 300
 aag aag atg act agg gga agg cag tca tcc tgacaaagag g 954
 Lys Lys Met Thr Arg Gly Arg Gln Ser Ser
 305 310

<210> 18
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 18
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 Leu Ala Gly Leu Thr Gln Arg Pro Glu Leu Gln Leu Pro Leu Phe Leu
 20 25 30
 Leu Phe Leu Gly Ile Tyr Val Val Thr Val Val Gly Asn Leu Gly Met
 35 40 45
 Ile Phe Leu Ile Ala Leu Ser Ser Gln Leu Tyr Pro Pro Val Tyr Tyr
 50 55 60
 Phe Leu Ser His Leu Ser Phe Ile Asp Leu Cys Tyr Ser Ser Val Ile

65	70	75	80
Thr Pro Lys Met Leu Val Asn Phe Val	Pro Glu Glu Asn Ile Ile Ser		
85	90	95	
Phe Leu Glu Cys Ile Thr Gln Leu Tyr Phe Phe Leu Ile Phe Val Ile			
100	105	110	
Ala Glu Gly Tyr Leu Leu Thr Ala Met Glu Tyr Asp Arg Tyr Val Ala			
115	120	125	
Ile Cys Arg Pro Leu Leu Tyr Asn Ile Val Met Ser His Arg Val Cys			
130	135	140	
Ser Ile Met Met Ala Val Val Tyr Ser Leu Gly Phe Leu Trp Ala Thr			
145	150	155	160
Val His Thr Thr Arg Met Ser Val Leu Ser Phe Cys Arg Ser His Thr			
165	170	175	
Val Ser His Tyr Phe Cys Asp Ile Leu Pro Leu Leu Thr Leu Ser Cys			
180	185	190	
Ser Ser Thr His Ile Asn Glu Ile Leu Leu Phe Ile Ile Gly Gly Val			
195	200	205	
Asn Thr Leu Ala Thr Thr Leu Ala Val Leu Ile Ser Tyr Ala Phe Ile			
210	215	220	
Phe Ser Ser Ile Leu Gly Ile His Ser Thr Glu Gly Gln Ser Lys Ala			
225	230	235	240
Phe Gly Thr Cys Ser Ser His Leu Leu Ala Val Gly Ile Phe Phe Gly			
245	250	255	
Ser Ile Thr Phe Met Tyr Phe Lys Pro Pro Ser Ser Thr Thr Met Glu			
260	265	270	
Lys Glu Lys Val Ser Ser Val Phe Tyr Ile Thr Ile Ile Pro Met Leu			
275	280	285	
Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Asn Ala Leu			
290	295	300	
Lys Lys Met Thr Arg Gly Arg Gln Ser Ser			
305	310		

<210> 19
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 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (16)..(996)

<400> 19

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aac ttc ctc ctc act gca ttc cct ggg ctg gaa tgt gct cat gtc tgg	99
Asn Phe Leu Leu Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp	
15 20 25	
atc tcc att cca gtc tgc tgt ctc tac acc att gcc ctc ttg gga aac	147
Ile Ser Ile Pro Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn	
30 35 40	
agt atg atc ttt ctt gtc atc att act aag cgg aga ctc cac aaa ccc	195
Ser Met Ile Phe Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro	
45 50 55 60	
atg tat tat ttc ctc tcc atg ctg gca gct gtt gat cta tgt ctg acc	243
Met Tyr Tyr Phe Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr	
65 70 75	
att acg acc ctt ccc act gtg ctt ggt gtt ctc tgg ttt cat gcc cgg	291
Ile Thr Thr Leu Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg	
80 85 90	
gag atc agc ttt aaa gct tgc ttc att caa atg ttc ttt gtg cat gct	339
Glu Ile Ser Phe Lys Ala Cys Phe Ile Gln Met Phe Phe Val His Ala	
95 100 105	
ttc tcc ttg ctg gag tcc tcg gtg ctg gta gcc atg gcc ttt gac cgc	387
Phe Ser Leu Leu Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg	
110 115 120	
ttc gtg gct atc tgt aac cca ctg aac tat gct act atc ctc aca gac	435
Phe Val Ala Ile Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp	
125 130 135 140	
agg atg gtc ctg gtg ata ggg ctg gtc atc tgc att aga cca gca gtt	483
Arg Met Val Leu Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val	
145 150 155	
ttc tta ctt ccc ctt ctt gta gcc ata aac act gtg tct ttt cat ggg	531
Phe Leu Leu Pro Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly	
160 165 170	
ggg cac gag ctt tcc cat cca ttt tgc tac cac cca gaa gtg atc aaa	579
Gly His Glu Leu Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys	
175 180 185	
tac aca tat tcc aaa cct tgg atc agc agt ttt tgg gga ctg ttt ctt	627
Tyr Thr Tyr Ser Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu	
190 195 200	
cag ctc tac ctg aat ggc act gac gta ttg ttt att ctt ttc tcc tat	675
Gln Leu Tyr Leu Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr	
205 210 215 220	

gtc	ctg	atc	ctc	cgt	act	gtt	ctg	ggc	att	gtg	gcc	cga	aag	aag	caa	723
Val	Leu	Ile	Leu	Arg	Thr	Val	Leu	Gly	Ile	Val	Ala	Arg	Lys	Lys	Gln	
				225					230						235	
caa	aaa	gct	ctc	agc	act	tgt	gtc	tgt	cac	atc	tgt	gca	gtc	act	att	771
Gln	Lys	Ala	Leu	Ser	Thr	Cys	Val	Cys	His	Ile	Cys	Ala	Val	Thr	Ile	
			240					245					250			
ttc	tat	gtg	cca	ctg	atc	agc	ctc	tct	ttg	gca	cac	cgc	ctc	ttc	cac	819
Phe	Tyr	Val	Pro	Leu	Ile	Ser	Leu	Ser	Leu	Ala	His	Arg	Leu	Phe	His	
		255					260					265				
tcc	acc	cca	agg	gtg	ctc	tgt	agc	act	ttg	gcc	aat	att	tat	ctg	ctc	867
Ser	Thr	Pro	Arg	Val	Leu	Cys	Ser	Thr	Leu	Ala	Asn	Ile	Tyr	Leu	Leu	
	270					275					280					
tta	cca	cct	gtg	ctg	aac	cct	atc	att	tac	agc	ttg	aag	acc	aag	aca	915
Leu	Pro	Pro	Val	Leu	Asn	Pro	Ile	Ile	Tyr	Ser	Leu	Lys	Thr	Lys	Thr	
	285				290					295					300	
atc	cgc	cag	gct	atg	ttc	cag	ctg	ctc	caa	tcc	aag	ggc	tca	tgg	ggc	963
Ile	Arg	Gln	Ala	Met	Phe	Gln	Leu	Leu	Gln	Ser	Lys	Gly	Ser	Trp	Gly	
			305						310					315		
ttt	aat	gtg	agg	ggc	ctt	agg	gga	aga	tgg	gat	tgaaggtagg	aaatt				1011
Phe	Asn	Val	Arg	Gly	Leu	Arg	Gly	Arg	Trp	Asp						
		320					325									

<210> 20
 <211> 327
 <212> PRT
 <213> Homo sapiens

<400> 20																
Met	Ala	Ile	Phe	Asn	Asn	Thr	Thr	Ser	Ser	Ser	Ser	Asn	Phe	Leu	Leu	
1				5					10					15		
Thr	Ala	Phe	Pro	Gly	Leu	Glu	Cys	Ala	His	Val	Trp	Ile	Ser	Ile	Pro	
			20					25					30			
Val	Cys	Cys	Leu	Tyr	Thr	Ile	Ala	Leu	Leu	Gly	Asn	Ser	Met	Ile	Phe	
		35					40					45				
Leu	Val	Ile	Ile	Thr	Lys	Arg	Arg	Leu	His	Lys	Pro	Met	Tyr	Tyr	Phe	
	50					55					60					
Leu	Ser	Met	Leu	Ala	Ala	Val	Asp	Leu	Cys	Leu	Thr	Ile	Thr	Thr	Leu	
	65				70					75					80	
Pro	Thr	Val	Leu	Gly	Val	Leu	Trp	Phe	His	Ala	Arg	Glu	Ile	Ser	Phe	
			85						90					95		
Lys	Ala	Cys	Phe	Ile	Gln	Met	Phe	Phe	Val	His	Ala	Phe	Ser	Leu	Leu	
			100					105						110		

Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125
 Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp Arg Met Val Leu
 130 135 140
 Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val Phe Leu Leu Pro
 145 150 155 160
 Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly Gly His Glu Leu
 165 170 175
 Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys Tyr Thr Tyr Ser
 180 185 190
 Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu Gln Leu Tyr Leu
 195 200 205
 Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr Val Leu Ile Leu
 210 215 220
 Arg Thr Val Leu Gly Ile Val Ala Arg Lys Lys Gln Gln Lys Ala Leu
 225 230 235 240
 Ser Thr Cys Val Cys His Ile Cys Ala Val Thr Ile Phe Tyr Val Pro
 245 250 255
 Leu Ile Ser Leu Ser Leu Ala His Arg Leu Phe His Ser Thr Pro Arg
 260 265 270
 Val Leu Cys Ser Thr Leu Ala Asn Ile Tyr Leu Leu Leu Pro Pro Val
 275 280 285
 Leu Asn Pro Ile Ile Tyr Ser Leu Lys Thr Lys Thr Ile Arg Gln Ala
 290 295 300
 Met Phe Gln Leu Leu Gln Ser Lys Gly Ser Trp Gly Phe Asn Val Arg
 305 310 315 320
 Gly Leu Arg Gly Arg Trp Asp
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<210> 21
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 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (16)..(996)

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Asn Phe Leu Leu Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp	
15 20 25	
atc tcc att cca gtc tgc tgt ctc tac acc att gcc ctc ttg gga aac	147
Ile Ser Ile Pro Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn	
30 35 40	
agt atg atc ttt ctt gtc atc att act aag cgg aga ctc cac aaa ccc	195
Ser Met Ile Phe Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro	
45 50 55 60	
atg tat tat ttc ctc tcc atg ctg gca gct gtt gat cta tgt ctg acc	243
Met Tyr Tyr Phe Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr	
65 70 75	
att acg acc ctt ccc act gtg ctt ggt gtt ctc tgg ttt cat gcc cgg	291
Ile Thr Thr Leu Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg	
80 85 90	
gag atc agc ttt aaa gct tgc ttc att caa atg ttc ttt gtg cat gct	339
Glu Ile Ser Phe Lys Ala Cys Phe Ile Gln Met Phe Phe Val His Ala	
95 100 105	
ttc tcc ttg ctg gag tcc tgc gtg ctg gta gcc atg gcc ttt gac cgc	387
Phe Ser Leu Leu Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg	
110 115 120	
ttc gtg gct atc tgt aac cca ctg aac tat gct act atc ctc aca gac	435
Phe Val Ala Ile Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp	
125 130 135 140	
agg atg gtc ctg gtg ata ggg ctg gtc atc tgc att aga cca gca gtt	483
Arg Met Val Leu Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val	
145 150 155	
ttc tta ctt ccc ctt ctt gta gcc ata aac act gtg tct ttt cat ggg	531
Phe Leu Leu Pro Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly	
160 165 170	
ggt cac gag ctt tcc cat cca ttt tgc tac cac cca gaa gtg atc aaa	579
Gly His Glu Leu Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys	
175 180 185	
tac aca tat tcc aaa cct tgg atc agc agt ttt tgg gga ctg ttt ctt	627
Tyr Thr Tyr Ser Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu	
190 195 200	
cag ctc tac ctg aat ggc act gac gta ttg ttt att ctt ttc tcc tat	675
Gln Leu Tyr Leu Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr	
205 210 215 220	
gtc ctg atc ctc cgt act gtt ctg ggc att gtg gcc cga aag aag caa	723
Val Leu Ile Leu Arg Thr Val Leu Gly Ile Val Ala Arg Lys Lys Gln	
225 230 235	

caa aaa gct ctc agc act tgt gtc tgt cac atc tgt gca gtc act att 771
 Gln Lys Ala Leu Ser Thr Cys Val Cys His Ile Cys Ala Val Thr Ile
 240 245 250
 ttc tat gtg cca ctg atc agc ctc tct ttg gca cac cgc ctc ttc cac 819
 Phe Tyr Val Pro Leu Ile Ser Leu Ser Leu Ala His Arg Leu Phe His
 255 260 265
 tcc acc cca agg gtg ctc tgt agc act ttg gcc aat att tat ctg ctc 867
 Ser Thr Pro Arg Val Leu Cys Ser Thr Leu Ala Asn Ile Tyr Leu Leu
 270 275 280
 tta cca cct gtg ctg aac cct atc att tac agc ttg aag acc aag aca 915
 Leu Pro Pro Val Leu Asn Pro Ile Ile Tyr Ser Leu Lys Thr Lys Thr
 285 290 295 300
 atc cgc cag gct atg ttc cag ctg ctc caa tcc aag ggt tca tgg ggt 963
 Ile Arg Gln Ala Met Phe Gln Leu Leu Gln Ser Lys Gly Ser Trp Gly
 305 310 315
 ttt aat gtg agg ggt ctt agg gga aga tgg gat tgaaggtagg aaatt 1011
 Phe Asn Val Arg Gly Leu Arg Gly Arg Trp Asp
 320 325

<210> 22
 <211> 327
 <212> PRT
 <213> Homo sapiens

<400> 22
 Met Ala Ile Phe Asn Asn Thr Thr Ser Ser Ser Ser Asn Phe Leu Leu
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 Thr Ala Phe Pro Gly Leu Glu Cys Ala His Val Trp Ile Ser Ile Pro
 20 25 30
 Val Cys Cys Leu Tyr Thr Ile Ala Leu Leu Gly Asn Ser Met Ile Phe
 35 40 45
 Leu Val Ile Ile Thr Lys Arg Arg Leu His Lys Pro Met Tyr Tyr Phe
 50 55 60
 Leu Ser Met Leu Ala Ala Val Asp Leu Cys Leu Thr Ile Thr Thr Leu
 65 70 75 80
 Pro Thr Val Leu Gly Val Leu Trp Phe His Ala Arg Glu Ile Ser Phe
 85 90 95
 Lys Ala Cys Phe Ile Gln Met Phe Phe Val His Ala Phe Ser Leu Leu
 100 105 110
 Glu Ser Ser Val Leu Val Ala Met Ala Phe Asp Arg Phe Val Ala Ile
 115 120 125
 Cys Asn Pro Leu Asn Tyr Ala Thr Ile Leu Thr Asp Arg Met Val Leu
 130 135 140

Val Ile Gly Leu Val Ile Cys Ile Arg Pro Ala Val Phe Leu Leu Pro
 145 150 155 160
 Leu Leu Val Ala Ile Asn Thr Val Ser Phe His Gly Gly His Glu Leu
 165 170 175
 Ser His Pro Phe Cys Tyr His Pro Glu Val Ile Lys Tyr Thr Tyr Ser
 180 185 190
 Lys Pro Trp Ile Ser Ser Phe Trp Gly Leu Phe Leu Gln Leu Tyr Leu
 195 200 205
 Asn Gly Thr Asp Val Leu Phe Ile Leu Phe Ser Tyr Val Leu Ile Leu
 210 215 220
 Arg Thr Val Leu Gly Ile Val Ala Arg Lys Lys Gln Gln Lys Ala Leu
 225 230 235 240
 Ser Thr Cys Val Cys His Ile Cys Ala Val Thr Ile Phe Tyr Val Pro
 245 250 255
 Leu Ile Ser Leu Ser Leu Ala His Arg Leu Phe His Ser Thr Pro Arg
 260 265 270
 Val Leu Cys Ser Thr Leu Ala Asn Ile Tyr Leu Leu Leu Pro Pro Val
 275 280 285
 Leu Asn Pro Ile Ile Tyr Ser Leu Lys Thr Lys Thr Ile Arg Gln Ala
 290 295 300
 Met Phe Gln Leu Leu Gln Ser Lys Gly Ser Trp Gly Phe Asn Val Arg
 305 310 315 320
 Gly Leu Arg Gly Arg Trp Asp
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 1 5 10
 att ctg aca ggt atc cca gga acg cca gac aag aac cca tgg ttg gcc 96
 Ile Leu Thr Gly Ile Pro Gly Thr Pro Asp Lys Asn Pro Trp Leu Ala
 15 20 25 30

ttt ccc ctg gga ttt ctc tac aca ctc aca ctc ctg gga aat ggt acc	144
Phe Pro Leu Gly Phe Leu Tyr Thr Leu Thr Leu Leu Gly Asn Gly Thr	
35 40 45	
atc cta gct gtc atc aag gtg gag cca agt ctc cat gag ccc acg tat	192
Ile Leu Ala Val Ile Lys Val Glu Pro Ser Leu His Glu Pro Thr Tyr	
50 55 60	
tac ttc ctt tct atc ttg gct ctc act gac gtt agt ctc tcc atg tcc	240
Tyr Phe Leu Ser Ile Leu Ala Leu Thr Asp Val Ser Leu Ser Met Ser	
65 70 75	
acc ttg ccc tcc atg ctc agc atc tac tgg ttt aat gcc cct cag att	288
Thr Leu Pro Ser Met Leu Ser Ile Tyr Trp Phe Asn Ala Pro Gln Ile	
80 85 90	
gtt ttt gat gca tgc atc atg cag atg ttc ttc atc cat gta ttt gga	336
Val Phe Asp Ala Cys Ile Met Gln Met Phe Phe Ile His Val Phe Gly	
95 100 105 110	
ata gta gaa tca gga gtc cta gtg tcc atg gcc ttt gac aga ttt gtg	384
Ile Val Glu Ser Gly Val Leu Val Ser Met Ala Phe Asp Arg Phe Val	
115 120 125	
gcc atc cga aac cca tta cac tat gtt tcc atc ctc act cac gat gtt	432
Ala Ile Arg Asn Pro Leu His Tyr Val Ser Ile Leu Thr His Asp Val	
130 135 140	
att cga aag act gga ata gct gtc ctc acc cgg gca gtc tgt gtg gta	480
Ile Arg Lys Thr Gly Ile Ala Val Leu Thr Arg Ala Val Cys Val Val	
145 150 155	
ttc cct gtg ccc ttc ctt ata aag tgc cta ccc ttc tgc cat tcc aat	528
Phe Pro Val Pro Phe Leu Ile Lys Cys Leu Pro Phe Cys His Ser Asn	
160 165 170	
gtc ttg tct cat tca tac tgt ctt cac caa aac atg atg cgg cta gct	576
Val Leu Ser His Ser Tyr Cys Leu His Gln Asn Met Met Arg Leu Ala	
175 180 185 190	
tgt gcc agc acc cgc atc aac agc ctc tac ggc ctc atc gtc gtc atc	624
Cys Ala Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile	
195 200 205	
ttc aca ctg ggg ctc gat gtt ctc ctc act cta ctg tct tat gta ctc	672
Phe Thr Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu	
210 215 220	
acc ctg aag act gtg ctg ggc att gtc tcc aga ggt gaa agg ctg aaa	720
Thr Leu Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys	
225 230 235	
acc ctc agc aca tgc ctc tct cac atg tct acc gtg ctc ctc ttc tat	768
Thr Leu Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr	
240 245 250	
gtt cct ttt atg ggt gct gcc tcc atg atc cac aga ttt tgg gag cat	816

Val	Pro	Phe	Met	Gly	Ala	Ala	Ser	Met	Ile	His	Arg	Phe	Trp	Glu	His	
255					260					265					270	
tta	tca	cca	gta	gtg	cac	atg	gtc	atg	gct	gat	ata	tac	cta	ctg	ctc	864
Leu	Ser	Pro	Val	Val	His	Met	Val	Met	Ala	Asp	Ile	Tyr	Leu	Leu	Leu	
				275					280					285		
ccg	cct	gtg	cta	aac	ccc	att	gtc	tac	agt	gtg	aag	acc	aag	caa	att	912
Pro	Pro	Val	Leu	Asn	Pro	Ile	Val	Tyr	Ser	Val	Lys	Thr	Lys	Gln	Ile	
			290					295					300			
gga	aga	atg	atc	ttt	caa	gtg	ttc	cag	agg	caa	aaa	aaa	tagg			955
Gly	Arg	Met	Ile	Phe	Gln	Val	Phe	Gln	Arg	Gln	Lys	Lys				
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<400> 24																
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			20					25					30			
Leu	Gly	Phe	Leu	Tyr	Thr	Leu	Thr	Leu	Leu	Gly	Asn	Gly	Thr	Ile	Leu	
		35				40						45				
Ala	Val	Ile	Lys	Val	Glu	Pro	Ser	Leu	His	Glu	Pro	Thr	Tyr	Tyr	Phe	
	50					55					60					
Leu	Ser	Ile	Leu	Ala	Leu	Thr	Asp	Val	Ser	Leu	Ser	Met	Ser	Thr	Leu	
65					70					75					80	
Pro	Ser	Met	Leu	Ser	Ile	Tyr	Trp	Phe	Asn	Ala	Pro	Gln	Ile	Val	Phe	
				85					90					95		
Asp	Ala	Cys	Ile	Met	Gln	Met	Phe	Phe	Ile	His	Val	Phe	Gly	Ile	Val	
		100					105						110			
Glu	Ser	Gly	Val	Leu	Val	Ser	Met	Ala	Phe	Asp	Arg	Phe	Val	Ala	Ile	
		115					120					125				
Arg	Asn	Pro	Leu	His	Tyr	Val	Ser	Ile	Leu	Thr	His	Asp	Val	Ile	Arg	
		130				135					140					
Lys	Thr	Gly	Ile	Ala	Val	Leu	Thr	Arg	Ala	Val	Cys	Val	Val	Phe	Pro	
145				150						155					160	
Val	Pro	Phe	Leu	Ile	Lys	Cys	Leu	Pro	Phe	Cys	His	Ser	Asn	Val	Leu	
			165						170					175		
Ser	His	Ser	Tyr	Cys	Leu	His	Gln	Asn	Met	Met	Arg	Leu	Ala	Cys	Ala	
			180					185						190		

Ser Thr Arg Ile Asn Ser Leu Tyr Gly Leu Ile Val Val Ile Phe Thr
195 200 205

Leu Gly Leu Asp Val Leu Leu Thr Leu Leu Ser Tyr Val Leu Thr Leu
210 215 220

Lys Thr Val Leu Gly Ile Val Ser Arg Gly Glu Arg Leu Lys Thr Leu
225 230 235 240

Ser Thr Cys Leu Ser His Met Ser Thr Val Leu Leu Phe Tyr Val Pro
245 250 255

Phe Met Gly Ala Ala Ser Met Ile His Arg Phe Trp Glu His Leu Ser
260 265 270

Pro Val Val His Met Val Met Ala Asp Ile Tyr Leu Leu Leu Pro Pro
275 280 285

Val Leu Asn Pro Ile Val Tyr Ser Val Lys Thr Lys Gln Ile Gly Arg
290 295 300

Met Ile Phe Gln Val Phe Gln Arg Gln Lys Lys
305 310 315

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<220>
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1 5 10 15

atg gca ctt agc aat tcc agc tgg agg cta ccc cag cct tct ttt ttc 98
Met Ala Leu Ser Asn Ser Ser Trp Arg Leu Pro Gln Pro Ser Phe Phe
20 25 30

ctg gta gga att ccg ggt tta gag gaa agc cag cac tgg atc gca ctg 146
Leu Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu
35 40 45

ccc ctg ggc atc ctt tac ctc ctt gct cta gtg ggc aat gtt acc att 194
Pro Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile
50 55 60

ctc ttc atc atc tgg atg gac cca tcc ttg cac caa tct atg tac ctc 242
Leu Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu
65 70 75

ttc ctg tcc atg cta gct gcc atc gac ctg gtt gtg gcc tcc tcc act	290
Phe Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr	
80 85 90 95	
gca ccc aaa gcc ctt gca gtg ctc ctg gtt cgt gcc caa gag att ggt	338
Ala Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly	
100 105 110	
tac act gtc tgc ctg atc cag atg ttc ttc acc cat gca ttc tcc tcc	386
Tyr Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser	
115 120 125	
atg gag tca ggg gta ctt gtg gcc atg gct ctg gat cgc tat gta gcc	434
Met Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala	
130 135 140	
att tgt cac ccc ttg cac cat tcc aca atc ctg cat cca ggg gtc ata	482
Ile Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile	
145 150 155	
ggg cac atc gga atg gtg gtg ctg gtg cgg gga tta cta ctc ctc atc	530
Gly His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Leu Ile	
160 165 170 175	
ccc ttc ctc att ctg ttg cga aaa ctt atc ttc tgc caa gcc acc atc	578
Pro Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile	
180 185 190	
ata ggc cat gcc tat tgt gaa cat atg gct gtt gtg aaa ctt gcc tgc	626
Ile Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys	
195 200 205	
tca gaa acc aca gtc aat cga gct tat ggg ctg act gtg gcc ttg ctt	674
Ser Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu	
210 215 220	
gtg gtt ggg ctg gat gtc ctg gcc att ggt gtt tcc tat gcc cac att	722
Val Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile	
225 230 235	
ctc cag gca gtg ctg aag gta cca gga aat gag gcc cga ctt aag gcc	770
Leu Gln Ala Val Leu Lys Val Pro Gly Asn Glu Ala Arg Leu Lys Ala	
240 245 250 255	
ttt agc aca tgt ggc tct cat gtt tgt gtc atc ctg gtc ttc tat atc	818
Phe Ser Thr Cys Gly Ser His Val Cys Val Ile Leu Val Phe Tyr Ile	
260 265 270	
ccg gga atg ttc tcc ttc ctc act cac cgc ttt ggt cat cat gta ccc	866
Pro Gly Met Phe Ser Phe Leu Thr His Arg Phe Gly His His Val Pro	
275 280 285	
cat cac gtc cat gtt ctt ctg gcc ata ctg tat cgc ctt gtg cca cct	914
His His Val His Val Leu Leu Ala Ile Leu Tyr Arg Leu Val Pro Pro	
290 295 300	
gca ctc aat cct ctt gtc tat agg gtg aag acc cag aag atc cac cag	962

Ala Leu Asn Pro Leu Val Tyr Arg Val Lys Thr Gln Lys Ile His Gln
 305 310 315
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 Gly Val Leu Arg Val Phe Thr Leu Lys Asp
 320 325

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 Val Gly Ile Pro Gly Leu Glu Glu Ser Gln His Trp Ile Ala Leu Pro
 35 40 45
 Leu Gly Ile Leu Tyr Leu Leu Ala Leu Val Gly Asn Val Thr Ile Leu
 50 55 60
 Phe Ile Ile Trp Met Asp Pro Ser Leu His Gln Ser Met Tyr Leu Phe
 65 70 75 80
 Leu Ser Met Leu Ala Ala Ile Asp Leu Val Val Ala Ser Ser Thr Ala
 85 90 95
 Pro Lys Ala Leu Ala Val Leu Leu Val Arg Ala Gln Glu Ile Gly Tyr
 100 105 110
 Thr Val Cys Leu Ile Gln Met Phe Phe Thr His Ala Phe Ser Ser Met
 115 120 125
 Glu Ser Gly Val Leu Val Ala Met Ala Leu Asp Arg Tyr Val Ala Ile
 130 135 140
 Cys His Pro Leu His His Ser Thr Ile Leu His Pro Gly Val Ile Gly
 145 150 155 160
 His Ile Gly Met Val Val Leu Val Arg Gly Leu Leu Leu Ile Pro
 165 170 175
 Phe Leu Ile Leu Leu Arg Lys Leu Ile Phe Cys Gln Ala Thr Ile Ile
 180 185 190
 Gly His Ala Tyr Cys Glu His Met Ala Val Val Lys Leu Ala Cys Ser
 195 200 205
 Glu Thr Thr Val Asn Arg Ala Tyr Gly Leu Thr Val Ala Leu Leu Val
 210 215 220
 Val Gly Leu Asp Val Leu Ala Ile Gly Val Ser Tyr Ala His Ile Leu

Asn Val Thr Pro Lys Met Leu Glu Asn Leu Leu Ser Glu Thr Lys Thr	
85 90 95 100	
att tcc tat gtg gga tgc ttg gtg cag tgc tac ttt ttc att gcc gtt	391
Ile Ser Tyr Val Gly Cys Leu Val Gln Cys Tyr Phe Phe Ile Ala Val	
105 110 115	
gtc cac gtg gag gtc tat atc ctg gct gtg atg gcc ttt gac agg tac	439
Val His Val Glu Val Tyr Ile Leu Ala Val Met Ala Phe Asp Arg Tyr	
120 125 130	
atg gcc ggc tgc aac cct ctg ctt tat ggc agt aaa atg tct agg act	487
Met Ala Gly Cys Asn Pro Leu Leu Tyr Gly Ser Lys Met Ser Arg Thr	
135 140 145	
gtg tgt gtt cgg ctc atc tct gtg cct tat gtc tat gga ttc tct gtc	535
Val Cys Val Arg Leu Ile Ser Val Pro Tyr Val Gly Phe Ser Val	
150 155 160	
agc cta ata tgc aca cta tgg act tat ggc tta tac ttc tgt gga aac	583
Ser Leu Ile Cys Thr Leu Trp Thr Tyr Gly Leu Tyr Phe Cys Gly Asn	
165 170 175 180	
ttt gaa atc aat cac ttc tat tgt gca gat ccc cct ctc atc cag att	631
Phe Glu Ile Asn His Phe Tyr Cys Ala Asp Pro Pro Leu Ile Gln Ile	
185 190 195	
gcc tgt ggg aga gtg cac atc aaa gaa atc aca atg att gtt att gct	679
Ala Cys Gly Arg Val His Ile Lys Glu Ile Thr Met Ile Val Ile Ala	
200 205 210	
gga att aac ttc aca tat tcc ctc tcg gtg gtc ctc atc tcc tac act	727
Gly Ile Asn Phe Thr Tyr Ser Leu Ser Val Val Leu Ile Ser Tyr Thr	
215 220 225	
ctc att gta gta gct gtg cta cgc atg cgc tct gcc gat ggc agg agg	775
Leu Ile Val Val Ala Val Leu Arg Met Arg Ser Ala Asp Gly Arg Arg	
230 235 240	
aag gcg ttc tcc acc tgt ggg tcc cac ttg acg gct gtt tct atg ttt	823
Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Ala Val Ser Met Phe	
245 250 255 260	
tat ggg acc ccc atc ttc atg tat ctc agg aga ccc act gag gaa tcc	871
Tyr Gly Thr Pro Ile Phe Met Tyr Leu Arg Arg Pro Thr Glu Glu Ser	
265 270 275	
gta gag cag ggc aaa atg gtg gct gtg ttt tac acc aca gta att cct	919
Val Glu Gln Gly Lys Met Val Ala Val Phe Tyr Thr Thr Val Ile Pro	
280 285 290	
atg ttg aat ccc atg atc tac agt ctg aga aat aag gat gta aaa gaa	967
Met Leu Asn Pro Met Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Glu	
295 300 305	
gca gtc aac aaa gca atc acc aag aca tat gtg agg cag taaaact	1013
Ala Val Asn Lys Ala Ile Thr Lys Thr Tyr Val Arg Gln	

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 315
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 20 25 30
 Gln Val Leu Phe Phe Val Val Phe Leu Ala Val Tyr Met Ile Thr Leu
 35 40 45
 Leu Gly Asn Ile Gly Met Ile Ile Leu Ile Ser Ile Ser Pro Gln Leu
 50 55 60
 Gln Ser Pro Met Tyr Phe Phe Leu Ser His Leu Ser Phe Ala Asp Val
 65 70 75 80
 Cys Phe Ser Ser Asn Val Thr Pro Lys Met Leu Glu Asn Leu Leu Ser
 85 90 95
 Glu Thr Lys Thr Ile Ser Tyr Val Gly Cys Leu Val Gln Cys Tyr Phe
 100 105 110
 Phe Ile Ala Val Val His Val Glu Val Tyr Ile Leu Ala Val Met Ala
 115 120 125
 Phe Asp Arg Tyr Met Ala Gly Cys Asn Pro Leu Leu Tyr Gly Ser Lys
 130 135 140
 Met Ser Arg Thr Val Cys Val Arg Leu Ile Ser Val Pro Tyr Val Tyr
 145 150 155 160
 Gly Phe Ser Val Ser Leu Ile Cys Thr Leu Trp Thr Tyr Gly Leu Tyr
 165 170 175
 Phe Cys Gly Asn Phe Glu Ile Asn His Phe Tyr Cys Ala Asp Pro Pro
 180 185 190
 Leu Ile Gln Ile Ala Cys Gly Arg Val His Ile Lys Glu Ile Thr Met
 195 200 205
 Ile Val Ile Ala Gly Ile Asn Phe Thr Tyr Ser Leu Ser Val Val Leu
 210 215 220
 Ile Ser Tyr Thr Leu Ile Val Val Ala Val Leu Arg Met Arg Ser Ala
 225 230 235 240
 Asp Gly Arg Arg Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Ala
 245 250 255

Val	Ser	Met	Phe	Tyr	Gly	Thr	Pro	Ile	Phe	Met	Tyr	Leu	Arg	Arg	Pro
			260					265					270		
Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val	Ala	Val	Phe	Tyr	Thr
			275				280					285			
Thr	Val	Ile	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr	Ser	Leu	Arg	Asn	Lys
	290					295					300				
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Gln

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 <213> Homo sapiens

<220>
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 <222> (44)..(1006)

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Met Gly Asn Thr																
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Asp	Leu	Ala	Tyr	Thr	Lys	Ala	Met	Pro	Asn	Phe	Thr	Asp	Val	Thr	Glu	
5					10					15				20		
ttt act ctc ctg ggg ctg acc tgt cgt cag gag cta cag gtt ctc ttt															151	
Phe	Thr	Leu	Leu	Gly	Leu	Thr	Cys	Arg	Gln	Glu	Leu	Gln	Val	Leu	Phe	
			25					30						35		
ttt gtg gtg ttc cta gcg gtt tac atg atc act ctg ttg gga aat att															199	
Phe	Val	Val	Phe	Leu	Ala	Val	Tyr	Met	Ile	Thr	Leu	Leu	Gly	Asn	Ile	
			40					45					50			
ggg atg atc att ttg att agc atc agt cct cag ctt cag agt ccc atg															247	
Gly	Met	Ile	Ile	Leu	Ile	Ser	Ile	Ser	Pro	Gln	Leu	Gln	Ser	Pro	Met	
			55				60					65				
tac ttt ttc ctg agt cat ctg tct ttt gcg gac gtg tgc ttc tcc tcc															295	
Tyr	Phe	Phe	Leu	Ser	His	Leu	Ser	Phe	Ala	Asp	Val	Cys	Phe	Ser	Ser	
			70				75				80					
aac gtt acc ccc aaa atg ctg gaa aac tta tta tca gag aca aaa acc															343	
Asn	Val	Thr	Pro	Lys	Met	Leu	Glu	Asn	Leu	Leu	Ser	Glu	Thr	Lys	Thr	
			85			90				95				100		
att tcc tat gtg gga tgc ttg gtg cag tgc tac ttt ttc att gcc gtt															391	
Ile	Ser	Tyr	Val	Gly	Cys	Leu	Val	Gln	Cys	Tyr	Phe	Phe	Ile	Ala	Val	

105	110	115	
gtc cac gtg gag gtc tat atc ctg gct	gtg atg gcc ttt gac agg tac	439	
Val His Val Glu Val Tyr Ile Leu Ala	Val Met Ala Phe Asp Arg Tyr		
120	125 130		
atg gcc ggc tgc aac cct ctg ctt tat	ggc agt aaa atg tct agg act	487	
Met Ala Gly Cys Asn Pro Leu Leu Tyr	Gly Ser Lys Met Ser Arg Thr		
135	140 145		
gtg tgt gtt cgg ctc atc tct gtg cct	tat gtc tat gga ttc tct gtc	535	
Val Cys Val Arg Leu Ile Ser Val Pro	Tyr Val Tyr Gly Phe Ser Val		
150	155 160		
agc cta ata tgc aca cta tgg act tat	ggc tta tac ttc tgt gga aac	583	
Ser Leu Ile Cys Thr Leu Trp Thr Tyr	Gly Leu Tyr Phe Cys Gly Asn		
165	170 175 180		
ttt gaa atc aat cac ttc tat tgt gca	gat ccc cct ctc atc cag att	631	
Phe Glu Ile Asn His Phe Tyr Cys Ala	Asp Pro Pro Leu Ile Gln Ile		
185	190 195		
gcc tgt ggg aga gtg cac atc aaa gaa	atc aca atg att gtt att gct	679	
Ala Cys Gly Arg Val His Ile Lys Glu	Ile Thr Met Ile Val Ile Ala		
200	205 210		
gga att aac ttc aca tat tcc ctc tcg	gtg gtc ctc atc tcc tac act	727	
Gly Ile Asn Phe Thr Tyr Ser Leu Ser	Val Val Leu Ile Ser Tyr Thr		
215	220 225		
ctc att gta gta gct gtg cta cgc atg	cgc tct gcc gat ggc agg agg	775	
Leu Ile Val Val Ala Val Leu Arg Met	Arg Ser Ala Asp Gly Arg Arg		
230	235 240		
aag gcg ttc tcc acc tgt ggg tcc cac	ttg acg gct gtt tct atg ttt	823	
Lys Ala Phe Ser Thr Cys Gly Ser His	Leu Thr Ala Val Ser Met Phe		
245	250 255 260		
tat ggg acc ccc atc ttc atg tat ctc	agg aga ccc act gag gaa tcc	871	
Tyr Gly Thr Pro Ile Phe Met Tyr Leu	Arg Arg Pro Thr Glu Glu Ser		
265	270 275		
gta gag cag ggc aaa atg gtg gct gtg	ttt tac acc aca gta att cct	919	
Val Glu Gln Gly Lys Met Val Ala Val	Phe Tyr Thr Thr Val Ile Pro		
280	285 290		
atg ttg aat ccc atg atc tac agt ctg	aga aat aag gat gta aaa gaa	967	
Met Leu Asn Pro Met Ile Tyr Ser Leu	Arg Asn Lys Asp Val Lys Glu		
295	300 305		
gca gtc aac aaa gca atc acc aag aca	tat gtg agg cag taaaaact	1013	
Ala Val Asn Lys Ala Ile Thr Lys Thr	Tyr Val Arg Gln		
310	315 320		

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<212> PRT

<213> Homo sapiens

<400> 30

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			20					25					30		
Gln	Val	Leu	Phe	Phe	Val	Val	Phe	Leu	Ala	Val	Tyr	Met	Ile	Thr	Leu
		35					40					45			
Leu	Gly	Asn	Ile	Gly	Met	Ile	Ile	Leu	Ile	Ser	Ile	Ser	Pro	Gln	Leu
	50					55					60				
Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Ser	His	Leu	Ser	Phe	Ala	Asp	Val
	65				70				75						80
Cys	Phe	Ser	Ser	Asn	Val	Thr	Pro	Lys	Met	Leu	Glu	Asn	Leu	Leu	Ser
				85				90						95	
Glu	Thr	Lys	Thr	Ile	Ser	Tyr	Val	Gly	Cys	Leu	Val	Gln	Cys	Tyr	Phe
			100					105					110		
Phe	Ile	Ala	Val	Val	His	Val	Glu	Val	Tyr	Ile	Leu	Ala	Val	Met	Ala
		115					120					125			
Phe	Asp	Arg	Tyr	Met	Ala	Gly	Cys	Asn	Pro	Leu	Leu	Tyr	Gly	Ser	Lys
	130					135					140				
Met	Ser	Arg	Thr	Val	Cys	Val	Arg	Leu	Ile	Ser	Val	Pro	Tyr	Val	Tyr
	145				150					155					160
Gly	Phe	Ser	Val	Ser	Leu	Ile	Cys	Thr	Leu	Trp	Thr	Tyr	Gly	Leu	Tyr
			165					170						175	
Phe	Cys	Gly	Asn	Phe	Glu	Ile	Asn	His	Phe	Tyr	Cys	Ala	Asp	Pro	Pro
			180				185						190		
Leu	Ile	Gln	Ile	Ala	Cys	Gly	Arg	Val	His	Ile	Lys	Glu	Ile	Thr	Met
		195					200					205			
Ile	Val	Ile	Ala	Gly	Ile	Asn	Phe	Thr	Tyr	Ser	Leu	Ser	Val	Val	Leu
	210					215					220				
Ile	Ser	Tyr	Thr	Leu	Ile	Val	Val	Ala	Val	Leu	Arg	Met	Arg	Ser	Ala
	225				230					235					240
Asp	Gly	Arg	Arg	Lys	Ala	Phe	Ser	Thr	Cys	Gly	Ser	His	Leu	Thr	Ala
				245					250				255		
Val	Ser	Met	Phe	Tyr	Gly	Thr	Pro	Ile	Phe	Met	Tyr	Leu	Arg	Arg	Pro
			260					265					270		
Thr	Glu	Glu	Ser	Val	Glu	Gln	Gly	Lys	Met	Val	Ala	Val	Phe	Tyr	Thr
		275					280						285		

Thr Val Ile Pro Met Leu Asn Pro Met Ile Tyr Ser Leu Arg Asn Lys
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Asp Val Lys Glu Ala Val Asn Lys Ala Ile Thr Lys Thr Tyr Val Arg
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Gln

<210> 31

<211> 995

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (27)..(989)

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gaa gct ggg acc aat agg acc gct gtt gct gag ttc att cta ctg ggc 101
 Glu Ala Gly Thr Asn Arg Thr Ala Val Ala Glu Phe Ile Leu Leu Gly
 10 15 20 25

cta gtg caa aca gaa gag atg cag cca gtt gtc ttt gtg ctc ctc ctc 149
 Leu Val Gln Thr Glu Glu Met Gln Pro Val Val Phe Val Leu Leu Leu
 30 35 40

ttt gcc tat ctg gtc aca act ggg ggc aac ctc agc atc ctg gca gcc 197
 Phe Ala Tyr Leu Val Thr Thr Gly Gly Asn Leu Ser Ile Leu Ala Ala
 45 50 55

gtc ttg gtg gag ccc aaa ctc cac gcc ccc atg tac ttc ttc ctg ggg 245
 Val Leu Val Glu Pro Lys Leu His Ala Pro Met Tyr Phe Phe Leu Gly
 60 65 70

aac ctg tca gtg ctg gat gtc gga tgt atc act gtc act gtt cct gca 293
 Asn Leu Ser Val Leu Asp Val Gly Cys Ile Thr Val Thr Val Pro Ala
 75 80 85

atg ttg ggt cgt ctc ttg tcc cac aag tcc aca att tcc tat gac gcc 341
 Met Leu Gly Arg Leu Leu Ser His Lys Ser Thr Ile Ser Tyr Asp Ala
 90 95 100 105

tgc ctc tcc cag ctc ttc ttc ttc cac ctt ctg gct ggg atg gac tgc 389
 Cys Leu Ser Gln Leu Phe Phe Phe His Leu Leu Ala Gly Met Asp Cys
 110 115 120

ttc ctg ctg acc gcc atg gcc tat gac cga ctc ctg gcc atc tgc cag 437
 Phe Leu Leu Thr Ala Met Ala Tyr Asp Arg Leu Leu Ala Ile Cys Gln
 125 130 135

ccc ctc acc tac agc acc cgc atg agt cag aca gtc cag agg atg ttg	485
Pro Leu Thr Tyr Ser Thr Arg Met Ser Gln Thr Val Gln Arg Met Leu	
140 145 150	
gtg gct gcg tcc ttg gct tgt gcc ttc acc aac gca ctg acc cac act	533
Val Ala Ala Ser Leu Ala Cys Ala Phe Thr Asn Ala Leu Thr His Thr	
155 160 165	
gtg gcc atg tcc acg ctc aac ttc tgt ggc ccc aat gag gtc aat cac	581
Val Ala Met Ser Thr Leu Asn Phe Cys Gly Pro Asn Glu Val Asn His	
170 175 180 185	
ttc tac tgt gac ctc cca cag ctc ttc cag ctc tcc tgc tcc agc acc	629
Phe Tyr Cys Asp Leu Pro Gln Leu Phe Gln Leu Ser Cys Ser Ser Thr	
190 195 200	
caa ctc aat gag ctg ctg ctc ttt gct gtg ggt ttc atc atg gca ggc	677
Gln Leu Asn Glu Leu Leu Leu Phe Ala Val Gly Phe Ile Met Ala Gly	
205 210 215	
aca cct ttg gtt ctc atc atc act gcc tac agc cac gtg gca gct gca	725
Thr Pro Leu Val Leu Ile Ile Thr Ala Tyr Ser His Val Ala Ala Ala	
220 225 230	
gtt cta cga atc cgt tca gtg gag ggc cga aag aag gcc ttc tcc acg	773
Val Leu Arg Ile Arg Ser Val Glu Gly Arg Lys Lys Ala Phe Ser Thr	
235 240 245	
tgt ggc tcc cac ctc acc gtg gtt tgt ctt ttc ttt gga aga ggt atc	821
Cys Gly Ser His Leu Thr Val Val Cys Leu Phe Phe Gly Arg Gly Ile	
250 255 260 265	
ttc aac tac atg aga ctg ggt tca gag gag gct tca gac aag gat aaa	869
Phe Asn Tyr Met Arg Leu Gly Ser Glu Glu Ala Ser Asp Lys Asp Lys	
270 275 280	
ggg gtt gga gtt ttc aac act gtt atc aac cct atg ctg aac cct ctt	917
Gly Val Gly Val Phe Asn Thr Val Ile Asn Pro Met Leu Asn Pro Leu	
285 290 295	
atc tac agc ctc aga aac cct gat gtt cag ggt gct ctg tgg caa ata	965
Ile Tyr Ser Leu Arg Asn Pro Asp Val Gln Gly Ala Leu Trp Gln Ile	
300 305 310	
ttt ttg ggg agg aga tca ctg acc tgagag	995
Phe Leu Gly Arg Arg Ser Leu Thr	
315 320	

<210> 32

<211> 321

<212> PRT

<213> Homo sapiens

<400> 32

Met Ser Leu Gln Lys Leu Met Glu Pro Glu Ala Gly Thr Asn Arg Thr

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Gln Pro Val Val Phe Val Leu Leu Leu Phe Ala Tyr Leu Val Thr Thr	35	40	45
Gly Gly Asn Leu Ser Ile Leu Ala Ala Val Leu Val Glu Pro Lys Leu	50	55	60
His Ala Pro Met Tyr Phe Phe Leu Gly Asn Leu Ser Val Leu Asp Val	65	70	75
Gly Cys Ile Thr Val Thr Val Pro Ala Met Leu Gly Arg Leu Leu Ser	85	90	95
His Lys Ser Thr Ile Ser Tyr Asp Ala Cys Leu Ser Gln Leu Phe Phe	100	105	110
Phe His Leu Leu Ala Gly Met Asp Cys Phe Leu Leu Thr Ala Met Ala	115	120	125
Tyr Asp Arg Leu Leu Ala Ile Cys Gln Pro Leu Thr Tyr Ser Thr Arg	130	135	140
Met Ser Gln Thr Val Gln Arg Met Leu Val Ala Ala Ser Leu Ala Cys	145	150	155
Ala Phe Thr Asn Ala Leu Thr His Thr Val Ala Met Ser Thr Leu Asn	165	170	175
Phe Cys Gly Pro Asn Glu Val Asn His Phe Tyr Cys Asp Leu Pro Gln	180	185	190
Leu Phe Gln Leu Ser Cys Ser Ser Thr Gln Leu Asn Glu Leu Leu Leu	195	200	205
Phe Ala Val Gly Phe Ile Met Ala Gly Thr Pro Leu Val Leu Ile Ile	210	215	220
Thr Ala Tyr Ser His Val Ala Ala Ala Val Leu Arg Ile Arg Ser Val	225	230	235
Glu Gly Arg Lys Lys Ala Phe Ser Thr Cys Gly Ser His Leu Thr Val	245	250	255
Val Cys Leu Phe Phe Gly Arg Gly Ile Phe Asn Tyr Met Arg Leu Gly	260	265	270
Ser Glu Glu Ala Ser Asp Lys Asp Lys Gly Val Gly Val Phe Asn Thr	275	280	285
Val Ile Asn Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Pro	290	295	300
Asp Val Gln Gly Ala Leu Trp Gln Ile Phe Leu Gly Arg Arg Ser Leu			

305

310

315

320

Thr

<210> 33

<211> 1024

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (3)..(962)

<400> 33

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atc cca gga tta gag aaa gcc cat ttc tgg gtt ggc ttc ccc ctc ctt	95
Ile Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu	
20 25 30	
tcc atg tat gta gtg gca atg ttt gga aac tgc atc gtg gtc ttc atc	143
Ser Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile	
35 40 45	
gta agg acg gaa cgc agc ctg cac gct ccg atg tac ctc ttt ctc tgc	191
Val Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys	
50 55 60	
atg ctt gca gcc att gac ctg gcc tta tcc aca tcc acc atg cct aag	239
Met Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys	
65 70 75	
atc ctt gcc ctt ttc tgg ttt gat tcc cga gag att agc ttt gag gcc	287
Ile Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala	
80 85 90 95	
tgt ctt acc cag atg ttc ttt att cat gcc ctc tca gcc att gaa tcc	335
Cys Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser	
100 105 110	
acc atc ctg ctg gcc atg gcc ttt gac cgt tat gtg gcc atc tgc cac	383
Thr Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His	
115 120 125	
cca ctg cgc cat gct gca gtg ctc aac aat aca gta aca gcc cag att	431
Pro Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile	
130 135 140	
ggc atc gtg gct gtg gtc cgc gga tcc ctc ttt ttt ttc cca ctg cct	479
Gly Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro	
145 150 155	

ctg ctg atc aag cgg ctg gcc ttc tgc cac tcc aat gtc ctc tcg cac	527
Leu Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His	
160 165 170 175	
tcc tat tgt gtc cac cag gat gta atg aag ttg gcc tat gca gac act	575
Ser Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr	
180 185 190	
ttg ccc aat gtg gta tat ggt ctt act gcc att ctg ctg gtc atg ggc	623
Leu Pro Asn Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly	
195 200 205	
gtg gac gta atg ttc atc tcc ttg tcc tat ttt ctg ata ata cga acg	671
Val Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr	
210 215 220	
gtt ctg caa ctg cct tcc aag tca gag cgg gcc aag gcc ttt gga acc	719
Val Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr	
225 230 235	
tgt gtg tca cac att ggt gtg gta ctc gcc ttc tat gtg cca ctt att	767
Cys Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile	
240 245 250 255	
ggc ctc tca gtg gta cac cgc ttt gga aac agc ctt cat ccc att gtg	815
Gly Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val	
260 265 270	
cgt gtt gtc atg ggt gac atc tac ctg ctg ctg cct cct gtc atc aat	863
Arg Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn	
275 280 285	
ccc atc atc tat ggt gcc aaa acc aaa cag atc aga aca cgg gtg ctg	911
Pro Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu	
290 295 300	
gct atg ttc aag atc agc tgt gac aag gac ttg cag gct gtg gga ggc	959
Ala Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly	
305 310 315	
aag tgacccttaa cactacactt ctoccttatct ttattggctt gataaacata	1012
Lys	
320	
attattttcta ac	1024

<210> 34
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 <212> PRT
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 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser

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Met	Tyr	Val	Val	Ala	Met	Phe	Gly	Asn	Cys	Ile	Val	Val	Phe	Ile	Val
		35					40					45			
Arg	Thr	Glu	Arg	Ser	Leu	His	Ala	Pro	Met	Tyr	Leu	Phe	Leu	Cys	Met
		50					55					60			
Leu	Ala	Ala	Ile	Asp	Leu	Ala	Leu	Ser	Thr	Ser	Thr	Met	Pro	Lys	Ile
		65					70					75			80
Leu	Ala	Leu	Phe	Trp	Phe	Asp	Ser	Arg	Glu	Ile	Ser	Phe	Glu	Ala	Cys
				85					90					95	
Leu	Thr	Gln	Met	Phe	Phe	Ile	His	Ala	Leu	Ser	Ala	Ile	Glu	Ser	Thr
			100					105					110		
Ile	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	Ile	Cys	His	Pro
			115				120					125			
Leu	Arg	His	Ala	Ala	Val	Leu	Asn	Asn	Thr	Val	Thr	Ala	Gln	Ile	Gly
			130				135					140			
Ile	Val	Ala	Val	Val	Arg	Gly	Ser	Leu	Phe	Phe	Phe	Pro	Leu	Pro	Leu
							150					155			160
Leu	Ile	Lys	Arg	Leu	Ala	Phe	Cys	His	Ser	Asn	Val	Leu	Ser	His	Ser
				165					170					175	
Tyr	Cys	Val	His	Gln	Asp	Val	Met	Lys	Leu	Ala	Tyr	Ala	Asp	Thr	Leu
			180					185					190		
Pro	Asn	Val	Val	Tyr	Gly	Leu	Thr	Ala	Ile	Leu	Leu	Val	Met	Gly	Val
			195				200					205			
Asp	Val	Met	Phe	Ile	Ser	Leu	Ser	Tyr	Phe	Leu	Ile	Ile	Arg	Thr	Val
			210				215					220			
Leu	Gln	Leu	Pro	Ser	Lys	Ser	Glu	Arg	Ala	Lys	Ala	Phe	Gly	Thr	Cys
				225			230					235			240
Val	Ser	His	Ile	Gly	Val	Val	Leu	Ala	Phe	Tyr	Val	Pro	Leu	Ile	Gly
				245				250					255		
Leu	Ser	Val	Val	His	Arg	Phe	Gly	Asn	Ser	Leu	His	Pro	Ile	Val	Arg
			260				265						270		
Val	Val	Met	Gly	Asp	Ile	Tyr	Leu	Leu	Leu	Pro	Pro	Val	Ile	Asn	Pro
			275				280					285			
Ile	Ile	Tyr	Gly	Ala	Lys	Thr	Lys	Gln	Ile	Arg	Thr	Arg	Val	Leu	Ala
			290				295					300			
Met	Phe	Lys	Ile	Ser	Cys	Asp	Lys	Asp	Leu	Gln	Ala	Val	Gly	Gly	Lys
				305			310					315			320

<210> 35
 <211> 998
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (2)..(988)

<400> 35

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ggt gac cct tct gtc ttc ttc ctc ctg ggc atc cca ggt ctg gaa caa   97
Val Asp Pro Ser Val Phe Phe Leu Leu Gly Ile Pro Gly Leu Glu Gln
    20             25            30

ttt cat ttg tgg ctc tca ctc cct gtg tgt ggc tta ggc aca gcc aca   145
Phe His Leu Trp Leu Ser Leu Pro Val Cys Gly Leu Gly Thr Ala Thr
    35             40            45

att gtg ggc aat ata act att ctg gtt gtt gtt gcc act gaa cca gtc   193
Ile Val Gly Asn Ile Thr Ile Leu Val Val Val Ala Thr Glu Pro Val
    50             55            60

ttg cac aag cct gtg tac ctt ttt ctg tgc atg ctc tca acc atc gac   241
Leu His Lys Pro Val Tyr Leu Phe Leu Cys Met Leu Ser Thr Ile Asp
    65             70            75            80

ttg gct gcc tct gtc tcc aca gtt ccc aag cta ctg gct atc ttc tgg   289
Leu Ala Ala Ser Val Ser Thr Val Pro Lys Leu Leu Ala Ile Phe Trp
    85             90            95

tgt gga gcc gga cat ata tct gcc tct gcc tgc ctg gca cag atg ttc   337
Cys Gly Ala Gly His Ile Ser Ala Ser Ala Cys Leu Ala Gln Met Phe
   100             105            110

ttc att cat gcc ttc tgc atg atg gag tcc act gtg cta ctg gcc atg   385
Phe Ile His Ala Phe Cys Met Met Glu Ser Thr Val Leu Leu Ala Met
   115             120            125

gcc ttt gat cgc tac gtg gcc atc tgc cac cca ctc cgc tat gcc aca   433
Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Thr
   130             135            140

atc ctc act gac acc atc att gcc cac ata ggg gtg gca gct gta gtg   481
Ile Leu Thr Asp Thr Ile Ile Ala His Ile Gly Val Ala Ala Val Val
  145             150            155            160

cga ggc tcc ctg ctc atg ctc cca tgt ccc ttc ctt att ggg cgt ttg   529
Arg Gly Ser Leu Leu Met Leu Pro Cys Pro Phe Leu Ile Gly Arg Leu
   165             170            175

aac ttc tgc caa agc cat gtg atc cta cac acg tac tgt gag cac atg   577
Asn Phe Cys Gln Ser His Val Ile Leu His Thr Tyr Cys Glu His Met

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180	185	190	
gct gtg gtg aag ctg gcc tgt gga gac acc agg cct aac cgt gtg tat			625
Ala Val Val Lys Leu Ala Cys Gly Asp Thr Arg Pro Asn Arg Val Tyr			
195	200	205	
ggg ctg aca gct gca ctg ttg gtc att ggg gtt gac ttg ttt tgc att			673
Gly Leu Thr Ala Ala Leu Leu Val Ile Gly Val Asp Leu Phe Cys Ile			
210	215	220	
ggt ctc tcc tat gcc cta agt gca caa gct gtc ctt cgc ctc tca tcc			721
Gly Leu Ser Tyr Ala Leu Ser Ala Gln Ala Val Leu Arg Leu Ser Ser			
225	230	235	240
cat gaa gct cgg tcc aag gcc cta ggg acc tgt ggt tcc cat gtc tgt			769
His Glu Ala Arg Ser Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys			
245	250	255	
gtc atc ctc atc tct tat aca cca gcc ctc ttc tcc ttt ttt aca cac			817
Val Ile Leu Ile Ser Tyr Thr Pro Ala Leu Phe Ser Phe Phe Thr His			
260	265	270	
cgc ttt ggc cat cac gtt cca gtc cat att cac att ctt ttg gcc aat			865
Arg Phe Gly His His Val Pro Val His Ile His Ile Leu Leu Ala Asn			
275	280	285	
gtt tat ctg ctt ttg cca cct gct ctt aat cct gtg gta tat gga gtt			913
Val Tyr Leu Leu Leu Pro Pro Ala Leu Asn Pro Val Val Tyr Gly Val			
290	295	300	
aag acc aaa cag atc cgt aaa aga gtt gtc agg gtg ttt caa agt ggg			961
Lys Thr Lys Gln Ile Arg Lys Arg Val Val Arg Val Phe Gln Ser Gly			
305	310	315	320
cag gga atg ggc atc aag gca tct gag tgactctgga			998
Gln Gly Met Gly Ile Lys Ala Ser Glu			
325			

<210> 36
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 <213> Homo sapiens

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 Met Ser Ser Thr Leu Gly His Asn Met Glu Ser Pro Asn His Thr Asp
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 Phe His Leu Trp Leu Ser Leu Pro Val Cys Gly Leu Gly Thr Ala Thr
 35 40 45
 Ile Val Gly Asn Ile Thr Ile Leu Val Val Val Ala Thr Glu Pro Val
 50 55 60

Leu His Lys Pro Val Tyr Leu Phe Leu Cys Met Leu Ser Thr Ile Asp
 65 70 75 80
 Leu Ala Ala Ser Val Ser Thr Val Pro Lys Leu Leu Ala Ile Phe Trp
 85 90 95
 Cys Gly Ala Gly His Ile Ser Ala Ser Ala Cys Leu Ala Gln Met Phe
 100 105 110
 Phe Ile His Ala Phe Cys Met Met Glu Ser Thr Val Leu Leu Ala Met
 115 120 125
 Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Thr
 130 135 140
 Ile Leu Thr Asp Thr Ile Ile Ala His Ile Gly Val Ala Ala Val Val
 145 150 155 160
 Arg Gly Ser Leu Leu Met Leu Pro Cys Pro Phe Leu Ile Gly Arg Leu
 165 170 175
 Asn Phe Cys Gln Ser His Val Ile Leu His Thr Tyr Cys Glu His Met
 180 185 190
 Ala Val Val Lys Leu Ala Cys Gly Asp Thr Arg Pro Asn Arg Val Tyr
 195 200 205
 Gly Leu Thr Ala Ala Leu Leu Val Ile Gly Val Asp Leu Phe Cys Ile
 210 215 220
 Gly Leu Ser Tyr Ala Leu Ser Ala Gln Ala Val Leu Arg Leu Ser Ser
 225 230 235 240
 His Glu Ala Arg Ser Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys
 245 250 255
 Val Ile Leu Ile Ser Tyr Thr Pro Ala Leu Phe Ser Phe Phe Thr His
 260 265 270
 Arg Phe Gly His His Val Pro Val His Ile His Ile Leu Leu Ala Asn
 275 280 285
 Val Tyr Leu Leu Leu Pro Pro Ala Leu Asn Pro Val Val Tyr Gly Val
 290 295 300
 Lys Thr Lys Gln Ile Arg Lys Arg Val Val Arg Val Phe Gln Ser Gly
 305 310 315 320
 Gln Gly Met Gly Ile Lys Ala Ser Glu
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<210> 37
 <211> 998
 <212> DNA
 <213> Homo sapiens

<220>

<221> CDS

<222> (2)..(988)

<400> 37

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gtt gac cct tct gtc ttc ttc ctc ctg ggc atc cca ggt ctg gaa caa 97
Val Asp Pro Ser Val Phe Phe Leu Leu Gly Ile Pro Gly Leu Glu Gln
      20             25             30

ttt cat ttg tgg ctc tca ctc cct gtg tgt ggc tta ggc aca gcc aca 145
Phe His Leu Trp Leu Ser Leu Pro Val Cys Gly Leu Gly Thr Ala Thr
      35             40             45

att gtg ggc aat ata act att ctg gtt gtt gtt gcc act gaa cca gtc 193
Ile Val Gly Asn Ile Thr Ile Leu Val Val Val Ala Thr Glu Pro Val
      50             55             60

ttg cac aag cct gtg tac ctt ttt ctg tgc atg ctc tca acc atc gac 241
Leu His Lys Pro Val Tyr Leu Phe Leu Cys Met Leu Ser Thr Ile Asp
      65             70             75             80

ttg gct gcc tct gtc tcc aca gtt ccc aag cta ctg gct atc ttc tgg 289
Leu Ala Ala Ser Val Ser Thr Val Pro Lys Leu Leu Ala Ile Phe Trp
      85             90             95

tgt gga gcc gga cat ata tct gcc tct gcc tgc ctg gca cag atg ttc 337
Cys Gly Ala Gly His Ile Ser Ala Ser Ala Cys Leu Ala Gln Met Phe
      100            105            110

ttc att cat gcc ttc tgc atg atg gag tcc act gtg cta ctg gcc atg 385
Phe Ile His Ala Phe Cys Met Met Glu Ser Thr Val Leu Leu Ala Met
      115            120            125

gcc ttt gat cgc tac gtg gcc atc tgc cac cca ctc cgc tat gcc aca 433
Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Thr
      130            135            140

atc ctc act gac acc atc att gcc cac ata ggg gtg gca gct gta gtg 481
Ile Leu Thr Asp Thr Ile Ile Ala His Ile Gly Val Ala Ala Val Val
      145            150            155            160

cga ggc tcc ctg ctc atg ctc cca tgt ccc ttc ctt att ggg cgt ttg 529
Arg Gly Ser Leu Leu Met Leu Pro Cys Pro Phe Leu Ile Gly Arg Leu
      165            170            175

aac ttc tgc caa agc cat gtg atc cta cac acg tac tgt gag cac atg 577
Asn Phe Cys Gln Ser His Val Ile Leu His Thr Tyr Cys Glu His Met
      180            185            190

gct gtg gtg aag ctg gcc tgt gga gac acc agg cct aac cgt gtg tat 625
Ala Val Val Lys Leu Ala Cys Gly Asp Thr Arg Pro Asn Arg Val Tyr
      195            200            205
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ggg ctg aca gct gca ctg ttg gtc att ggg gtt gac ttg ttt tgc att	673
Gly Leu Thr Ala Ala Leu Leu Val Ile Gly Val Asp Leu Phe Cys Ile	
210 215 220	
ggg ctc tcc tat gcc cta agt gca caa gct gtc ctt cgc ctc tca tcc	721
Gly Leu Ser Tyr Ala Leu Ser Ala Gln Ala Val Leu Arg Leu Ser Ser	
225 230 235 240	
cat gaa gct cgg tcc aag gcc cta ggg acc tgt ggt tcc cat gtc tgt	769
His Glu Ala Arg Ser Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys	
245 250 255	
gtc atc ctc atc tct tat aca cca gcc ctc ttc tcc ttt ttt aca cac	817
Val Ile Leu Ile Ser Tyr Thr Pro Ala Leu Phe Ser Phe Phe Thr His	
260 265 270	
cgc ttt ggc cat cac gtt cca gtc cat att cac att ctt ttg gcc aat	865
Arg Phe Gly His His Val Pro Val His Ile His Ile Leu Leu Ala Asn	
275 280 285	
gtt tat ctg ctt ttg cca cct gct ctt aat cct gtg gta tat gga gtt	913
Val Tyr Leu Leu Leu Pro Pro Ala Leu Asn Pro Val Val Tyr Gly Val	
290 295 300	
aag acc aaa cag atc cgt aaa aga gtt gtc agg gtg ttt caa agt ggg	961
Lys Thr Lys Gln Ile Arg Lys Arg Val Val Arg Val Phe Gln Ser Gly	
305 310 315 320	
cag gga atg ggc atc aag gca tct gag tgactctgga	998
Gln Gly Met Gly Ile Lys Ala Ser Glu	
325	

<210> 38
 <211> 329
 <212> PRT
 <213> Homo sapiens

<400> 38
Met Ser Ser Thr Leu Gly His Asn Met Glu Ser Pro Asn His Thr Asp
1 5 10 15
Val Asp Pro Ser Val Phe Phe Leu Leu Gly Ile Pro Gly Leu Glu Gln
20 25 30
Phe His Leu Trp Leu Ser Leu Pro Val Cys Gly Leu Gly Thr Ala Thr
35 40 45
Ile Val Gly Asn Ile Thr Ile Leu Val Val Val Ala Thr Glu Pro Val
50 55 60
Leu His Lys Pro Val Tyr Leu Phe Leu Cys Met Leu Ser Thr Ile Asp
65 70 75 80
Leu Ala Ala Ser Val Ser Thr Val Pro Lys Leu Leu Ala Ile Phe Trp
85 90 95

Cys Gly Ala Gly His Ile Ser Ala Ser Ala Cys Leu Ala Gln Met Phe
 100 105 110
 Phe Ile His Ala Phe Cys Met Met Glu Ser Thr Val Leu Leu Ala Met
 115 120 125
 Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Ala Thr
 130 135 140
 Ile Leu Thr Asp Thr Ile Ile Ala His Ile Gly Val Ala Ala Val Val
 145 150 155 160
 Arg Gly Ser Leu Leu Met Leu Pro Cys Pro Phe Leu Ile Gly Arg Leu
 165 170 175
 Asn Phe Cys Gln Ser His Val Ile Leu His Thr Tyr Cys Glu His Met
 180 185 190
 Ala Val Val Lys Leu Ala Cys Gly Asp Thr Arg Pro Asn Arg Val Tyr
 195 200 205
 Gly Leu Thr Ala Ala Leu Leu Val Ile Gly Val Asp Leu Phe Cys Ile
 210 215 220
 Gly Leu Ser Tyr Ala Leu Ser Ala Gln Ala Val Leu Arg Leu Ser Ser
 225 230 235 240
 His Glu Ala Arg Ser Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys
 245 250 255
 Val Ile Leu Ile Ser Tyr Thr Pro Ala Leu Phe Ser Phe Phe Thr His
 260 265 270
 Arg Phe Gly His His Val Pro Val His Ile His Ile Leu Leu Ala Asn
 275 280 285
 Val Tyr Leu Leu Leu Pro Pro Ala Leu Asn Pro Val Val Tyr Gly Val
 290 295 300
 Lys Thr Lys Gln Ile Arg Lys Arg Val Val Arg Val Phe Gln Ser Gly
 305 310 315 320
 Gln Gly Met Gly Ile Lys Ala Ser Glu
 325

<210> 39
 <211> 929
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3) .. (920)

<400> 39

cc atg cag agg agc aat cac aca gtg act gag ttc atc ctg ctg ggc	47
Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ttc acc aca gat cca ggg atg caa ctg ggc ctc ttt gtg gtg ttc ctg	95
Phe Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu	
20 25 30	
ggg gtg tac tgt ctg act gtg gta gga agt agc acc ctc atc gtg ttg	143
Gly Val Tyr Cys Leu Thr Val Val Gly Ser Ser Thr Leu Ile Val Leu	
35 40 45	
atc tgt aat gac tcc cgc cta cac aca ccc atg tat ttt gtc att gga	191
Ile Cys Asn Asp Ser Arg Leu His Thr Pro Met Tyr Phe Val Ile Gly	
50 55 60	
aat ctg tca ttt ctg gat ctc tgg tat tct tct gtc cac acc cca aag	239
Asn Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val His Thr Pro Lys	
65 70 75	
atc cta gtg acc tgc atc tct gaa gac aaa agc atc tcc ttt gct ggc	287
Ile Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly	
80 85 90 95	
tgc ctg tgt cag ttc ttc tct gcc agg ctg gcc tat agt gag tgc tac	335
Cys Leu Cys Gln Phe Phe Ser Ala Arg Leu Ala Tyr Ser Glu Cys Tyr	
100 105 110	
cta ctg gct gcc atg gct tat gac cac tac gtg gcc atc tcc aag ccc	383
Leu Leu Ala Ala Met Ala Tyr Asp His Tyr Val Ala Ile Ser Lys Pro	
115 120 125	
ctg ctt tat gct cag acc atg cca agg aga ttg tgc atc tgt ttg gtt	431
Leu Leu Tyr Ala Gln Thr Met Pro Arg Arg Leu Cys Ile Cys Leu Val	
130 135 140	
tta tat tcc tat act ggg ggt ttt gtc aat gca ata ata tta acc agc	479
Leu Tyr Ser Tyr Thr Gly Gly Phe Val Asn Ala Ile Ile Leu Thr Ser	
145 150 155	
aac aca ttc aca ttg gat ttt tgt ggt gac aat gtc att gat gac ttt	527
Asn Thr Phe Thr Leu Asp Phe Cys Gly Asp Asn Val Ile Asp Asp Phe	
160 165 170 175	
ttc tgt gat gtt cca ccc ctc gtg aag ctg gca tgc agt gtg aga gag	575
Phe Cys Asp Val Pro Pro Leu Val Lys Leu Ala Cys Ser Val Arg Glu	
180 185 190	
agc tac cag gct gtg ctg cac ttc ctt ctg gcc tcc aat gtc atc tcc	623
Ser Tyr Gln Ala Val Leu His Phe Leu Leu Ala Ser Asn Val Ile Ser	
195 200 205	
cct act gtg ctc atc ctt gcc tct tac ctc tcc atc atc acc acc atc	671
Pro Thr Val Leu Ile Leu Ala Ser Tyr Leu Ser Ile Ile Thr Thr Ile	
210 215 220	

ctg agg atc cac tct acc cag ggc cgc atc aaa gtc ttc tcc aca tgc 719
 Leu Arg Ile His Ser Thr Gln Gly Arg Ile Lys Val Phe Ser Thr Cys
 225 230 235

tcc tcc cac ctg atc tcc gtt acc tta tac tat ggc tcc att ctc tac 767
 Ser Ser His Leu Ile Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr
 240 245 250 255

aac tac tcc cgg cca agt tcc agc tac tcc ctc aag agg gac aaa atg 815
 Asn Tyr Ser Arg Pro Ser Ser Ser Tyr Ser Leu Lys Arg Asp Lys Met
 260 265 270

gtt tct acc ttt tat act atg ctg ttc ccc atg ttg aat ccc atg atc 863
 Val Ser Thr Phe Tyr Thr Met Leu Phe Pro Met Leu Asn Pro Met Ile
 275 280 285

tac agt ctg agg agt aaa gac atg aaa gac gct ctg aaa aaa ttc ttc 911
 Tyr Ser Leu Arg Ser Lys Asp Met Lys Asp Ala Leu Lys Lys Phe Phe
 290 295 300

aag tca gca taatccaaa 929
 Lys Ser Ala
 305

<210> 40
 <211> 306
 <212> PRT
 <213> Homo sapiens

<400> 40
 Met Gln Arg Ser Asn His Thr Val Thr Glu Phe Ile Leu Leu Gly Phe
 1 5 10 15
 Thr Thr Asp Pro Gly Met Gln Leu Gly Leu Phe Val Val Phe Leu Gly
 20 25 30
 Val Tyr Cys Leu Thr Val Val Gly Ser Ser Thr Leu Ile Val Leu Ile
 35 40 45
 Cys Asn Asp Ser Arg Leu His Thr Pro Met Tyr Phe Val Ile Gly Asn
 50 55 60
 Leu Ser Phe Leu Asp Leu Trp Tyr Ser Ser Val His Thr Pro Lys Ile
 65 70 75 80
 Leu Val Thr Cys Ile Ser Glu Asp Lys Ser Ile Ser Phe Ala Gly Cys
 85 90 95
 Leu Cys Gln Phe Phe Ser Ala Arg Leu Ala Tyr Ser Glu Cys Tyr Leu
 100 105 110
 Leu Ala Ala Met Ala Tyr Asp His Tyr Val Ala Ile Ser Lys Pro Leu
 115 120 125
 Leu Tyr Ala Gln Thr Met Pro Arg Arg Leu Cys Ile Cys Leu Val Leu
 130 135 140

Tyr Ser Tyr Thr Gly Gly Phe Val Asn Ala Ile Ile Leu Thr Ser Asn
 145 150 155 160
 Thr Phe Thr Leu Asp Phe Cys Gly Asp Asn Val Ile Asp Asp Phe Phe
 165 170 175
 Cys Asp Val Pro Pro Leu Val Lys Leu Ala Cys Ser Val Arg Glu Ser
 180 185 190
 Tyr Gln Ala Val Leu His Phe Leu Leu Ala Ser Asn Val Ile Ser Pro
 195 200 205
 Thr Val Leu Ile Leu Ala Ser Tyr Leu Ser Ile Ile Thr Thr Ile Leu
 210 215 220
 Arg Ile His Ser Thr Gln Gly Arg Ile Lys Val Phe Ser Thr Cys Ser
 225 230 235 240
 Ser His Leu Ile Ser Val Thr Leu Tyr Tyr Gly Ser Ile Leu Tyr Asn
 245 250 255
 Tyr Ser Arg Pro Ser Ser Ser Tyr Ser Leu Lys Arg Asp Lys Met Val
 260 265 270
 Ser Thr Phe Tyr Thr Met Leu Phe Pro Met Leu Asn Pro Met Ile Tyr
 275 280 285
 Ser Leu Arg Ser Lys Asp Met Lys Asp Ala Leu Lys Lys Phe Phe Lys
 290 295 300
 Ser Ala
 305

<210> 41
 <211> 939
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3)..(932)

<400> 41
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 Met Gly Asn His Thr Thr Val Thr Glu Phe Val Leu Leu Gly Leu
 1 5 10 15
 tca gag acc tgt gag ctg cag atg ctc atc ttc ctg ggg ctc ctc ctg 95
 Ser Glu Thr Cys Glu Leu Gln Met Leu Ile Phe Leu Gly Leu Leu Leu
 20 25 30
 acc tac ctc ctc aca ctg ctg ggg aat ctg gtc atc gtg gtc atc acc 143
 Thr Tyr Leu Leu Thr Leu Leu Gly Asn Leu Val Ile Val Val Ile Thr
 35 40 45

ctc atg gac agg cgc ctc cac acc acc atg tac tac ttc ctc cgc aac	191
Leu Met Asp Arg Arg Leu His Thr Thr Met Tyr Tyr Phe Leu Arg Asn	
50 55 60	
ttt gct gtc ccg gag atc tgg ttc acc tcg gtc atc ttt ccc aag gtg	239
Phe Ala Val Pro Glu Ile Trp Phe Thr Ser Val Ile Phe Pro Lys Val	
65 70 75	
ctg gcc aac atc ctc aca gga tac aag caa gac cat tcc ctc cca ggc	287
Leu Ala Asn Ile Leu Thr Gly Tyr Lys Gln Asp His Ser Leu Pro Gly	
80 85 90 95	
tgc ttc ctg caa agt ttg ctc tat ttt ttc ttg ggc acc aca gag ttc	335
Cys Phe Leu Gln Ser Leu Leu Tyr Phe Phe Leu Gly Thr Thr Glu Phe	
100 105 110	
ttc ctc ctg gcg gtg atg tcc ttt gac agg tac gtg gcc gta tgt aac	383
Phe Leu Leu Ala Val Met Ser Phe Asp Arg Tyr Val Ala Val Cys Asn	
115 120 125	
cct ttg cat tat gcc acc atc atg agc aaa agg gtc tgt gtc cag cta	431
Pro Leu His Tyr Ala Thr Ile Met Ser Lys Arg Val Cys Val Gln Leu	
130 135 140	
gtc ctc tgt tgg tgg atg aca gga ttc ctt ctc atc att att cca agt	479
Val Leu Cys Trp Trp Met Thr Gly Phe Leu Leu Ile Ile Ile Pro Ser	
145 150 155	
ttt ctt gtc ctt cag cag cca ttc tgt ggc ccc aac atc att aac cat	527
Phe Leu Val Leu Gln Gln Pro Phe Cys Gly Pro Asn Ile Ile Asn His	
160 165 170 175	
ttc ttc tgt gac aac ttt ccc ctc ttg aaa ctc att tgt gca gac atg	575
Phe Phe Cys Asp Asn Phe Pro Leu Leu Lys Leu Ile Cys Ala Asp Met	
180 185 190	
act ctg ata gag ctc ctg ggt ttt gtt ata gcc aac gtc agc tta ctg	623
Thr Leu Ile Glu Leu Leu Gly Phe Val Ile Ala Asn Val Ser Leu Leu	
195 200 205	
ggc act ctg tct atg acg gcc act tgc tat ggc cac atc ctc cac gcc	671
Gly Thr Leu Ser Met Thr Ala Thr Cys Tyr Gly His Ile Leu His Ala	
210 215 220	
att ctg cac atc ccc tca gcc aaa gag aag cag aaa gcc ttc tcc gcc	719
Ile Leu His Ile Pro Ser Ala Lys Glu Lys Gln Lys Ala Phe Ser Ala	
225 230 235	
tgc tcc tcc cac atc att gtc gtg tct ctc ttc tat ggc agc tgc atc	767
Cys Ser Ser His Ile Ile Val Val Ser Leu Phe Tyr Gly Ser Cys Ile	
240 245 250 255	
ttc atg tac att cag tca ggc aag agt gac cag aag gaa gac agg aac	815
Phe Met Tyr Ile Gln Ser Gly Lys Ser Asp Gln Lys Glu Asp Arg Asn	
260 265 270	

aag gtg gcg gca ttg ctt aac acc gtg gtg acc ctg atg ctc aac ccc 863
Lys Val Ala Ala Leu Leu Asn Thr Val Val Thr Leu Met Leu Asn Pro
275 280 285

ttc atc tac acc ctg agg aac aaa cag gtg aaa cag gtg ttt agg cag 911
Phe Ile Tyr Thr Leu Arg Asn Lys Gln Val Lys Gln Val Phe Arg Gln
290 295 300

cag gtg agc aaa ctc ctc ata taaagct 939
Gln Val Ser Lys Leu Leu Ile
305 310

<210> 42
<211> 310
<212> PRT
<213> Homo sapiens

<400> 42
Met Gly Asn His Thr Thr Val Thr Glu Phe Val Leu Leu Gly Leu Ser
1 5 10 15
Glu Thr Cys Glu Leu Gln Met Leu Ile Phe Leu Gly Leu Leu Leu Thr
20 25 30
Tyr Leu Leu Thr Leu Leu Gly Asn Leu Val Ile Val Val Ile Thr Leu
35 40 45
Met Asp Arg Arg Leu His Thr Thr Met Tyr Tyr Phe Leu Arg Asn Phe
50 55 60
Ala Val Pro Glu Ile Trp Phe Thr Ser Val Ile Phe Pro Lys Val Leu
65 70 75 80
Ala Asn Ile Leu Thr Gly Tyr Lys Gln Asp His Ser Leu Pro Gly Cys
85 90 95
Phe Leu Gln Ser Leu Leu Tyr Phe Phe Leu Gly Thr Thr Glu Phe Phe
100 105 110
Leu Leu Ala Val Met Ser Phe Asp Arg Tyr Val Ala Val Cys Asn Pro
115 120 125
Leu His Tyr Ala Thr Ile Met Ser Lys Arg Val Cys Val Gln Leu Val
130 135 140
Leu Cys Trp Trp Met Thr Gly Phe Leu Leu Ile Ile Ile Pro Ser Phe
145 150 155 160
Leu Val Leu Gln Gln Pro Phe Cys Gly Pro Asn Ile Ile Asn His Phe
165 170 175
Phe Cys Asp Asn Phe Pro Leu Leu Lys Leu Ile Cys Ala Asp Met Thr
180 185 190
Leu Ile Glu Leu Leu Gly Phe Val Ile Ala Asn Val Ser Leu Leu Gly
195 200 205

Thr Leu Ser Met Thr Ala Thr Cys Tyr Gly His Ile Leu His Ala Ile
 210 215 220
 Leu His Ile Pro Ser Ala Lys Glu Lys Gln Lys Ala Phe Ser Ala Cys
 225 230 235 240
 Ser Ser His Ile Ile Val Val Ser Leu Phe Tyr Gly Ser Cys Ile Phe
 245 250 255
 Met Tyr Ile Gln Ser Gly Lys Ser Asp Gln Lys Glu Asp Arg Asn Lys
 260 265 270
 Val Ala Ala Leu Leu Asn Thr Val Val Thr Leu Met Leu Asn Pro Phe
 275 280 285
 Ile Tyr Thr Leu Arg Asn Lys Gln Val Lys Gln Val Phe Arg Gln Gln
 290 295 300
 Val Ser Lys Leu Leu Ile
 305 310

<210> 43
 <211> 931
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1) .. (924)

<400> 43
 atg aag aat aaa agg aat gtg act gaa ttc gtt tta aca ggt ctt aca 48
 Met Lys Asn Lys Arg Asn Val Thr Glu Phe Val Leu Thr Gly Leu Thr
 1 5 10 15
 cag aac cct aaa atg gag aaa gtc atg ttt gca gta ttt ttg gtt ctt 96
 Gln Asn Pro Lys Met Glu Lys Val Met Phe Ala Val Phe Leu Val Leu
 20 25 30
 tac atg ata aca ctt tca ggc aac ctg ctc ctt gtg gtt aca att acc 144
 Tyr Met Ile Thr Leu Ser Gly Asn Leu Leu Leu Val Val Thr Ile Thr
 35 40 45
 acc agc cag gct ctt agc tcc ccc atg tac ttc ttc ctg agc cac ctt 192
 Thr Ser Gln Ala Leu Ser Ser Pro Met Tyr Phe Phe Leu Ser His Leu
 50 55 60
 tct ttg ata gac aca gtt tat tct tct tct tca gct cct aag ttg att 240
 Ser Leu Ile Asp Thr Val Tyr Ser Ser Ser Ser Ala Pro Lys Leu Ile
 65 70 75 80
 gtc gat tcc ctt cat gag aag aaa atc atc tcc ttt aat ggg tgt atg 288
 Val Asp Ser Leu His Glu Lys Lys Ile Ile Ser Phe Asn Gly Cys Met
 85 90 95

gct caa gcc tat gaa gaa cac att ttt ggt gct act gag atc atc ctg Ala Gln Ala Tyr Glu Glu His Ile Phe Gly Ala Thr Glu Ile Ile Leu 100 105 110	336
ctg aca gtg atg gcc tgt gac aac tat gtg gcc atc tgc aaa cct ctg Leu Thr Val Met Ala Cys Asp Asn Tyr Val Ala Ile Cys Lys Pro Leu 115 120 125	384
cac tac aca acc atc atg agc cac agc ctg tgc att ctc cta gtg gta His Tyr Thr Thr Ile Met Ser His Ser Leu Cys Ile Leu Leu Val Val 130 135 140	432
gtg gcc tgg ata gga gga ttt ctc cat gca aat att cag att cta ttt Val Ala Trp Ile Gly Gly Phe Leu His Ala Asn Ile Gln Ile Leu Phe 145 150 155 160	480
aca gta tgg ctg ccc ttc tgt ggc ccc aat gtc ata gac cac ttc atg Thr Val Trp Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Met 165 170 175	528
tgt gac ttg tgc cct ttg tta aaa ctt gtt tgc ctg gac act cat acc Cys Asp Leu Cys Pro Leu Leu Lys Leu Val Cys Leu Asp Thr His Thr 180 185 190	576
ctt ggt ctc ttt gtt gct gcc aac agt ggg ttc atc tgc tta tta aac Leu Gly Leu Phe Val Ala Ala Asn Ser Gly Phe Ile Cys Leu Leu Asn 195 200 205	624
ttc ctt ctc tgg gtg gta tcc tat gtg atc atc ttg aga tgt tta aag Phe Leu Leu Trp Val Val Ser Tyr Val Ile Ile Leu Arg Cys Leu Lys 210 215 220	672
aac tat atc ttg gag ggg agg ggt aaa gcc ctc tcc acc tgt att tct Asn Tyr Ile Leu Glu Gly Arg Gly Lys Ala Leu Ser Thr Cys Ile Ser 225 230 235 240	720
cac atc ata ata gtt gtc tta ttc ttt gtg cct tgt ata ttt gtg tat His Ile Ile Ile Val Val Leu Phe Phe Val Pro Cys Ile Phe Val Tyr 245 250 255	768
ctg cac cca gtg aca aac tct gcc gat aaa gct gct gct gta ttt tat Leu His Pro Val Thr Asn Ser Ala Asp Lys Ala Ala Ala Val Phe Tyr 260 265 270	816
act atg gtg gtc cca atg tta aat cct ttg atc tac aca ctc aga aat Thr Met Val Val Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn 275 280 285	864
gct gag gta aaa agt gca ata agg aag ctt tgg aga aaa aaa gtt att Ala Glu Val Lys Ser Ala Ile Arg Lys Leu Trp Arg Lys Lys Val Ile 290 295 300	912
tca gat aat gac taaataa Ser Asp Asn Asp 305	931

<210> 44
 <211> 308
 <212> PRT
 <213> Homo sapiens

<400> 44

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Met Lys Asn Lys Arg Asn Val Thr Glu Phe Val Leu Thr Gly Leu Thr
 1              5              10              15

Gln Asn Pro Lys Met Glu Lys Val Met Phe Ala Val Phe Leu Val Leu
      20              25              30

Tyr Met Ile Thr Leu Ser Gly Asn Leu Leu Leu Val Val Thr Ile Thr
      35              40              45

Thr Ser Gln Ala Leu Ser Ser Pro Met Tyr Phe Phe Leu Ser His Leu
      50              55              60

Ser Leu Ile Asp Thr Val Tyr Ser Ser Ser Ser Ala Pro Lys Leu Ile
      65              70              75              80

Val Asp Ser Leu His Glu Lys Lys Ile Ile Ser Phe Asn Gly Cys Met
      85              90              95

Ala Gln Ala Tyr Glu Glu His Ile Phe Gly Ala Thr Glu Ile Ile Leu
      100             105             110

Leu Thr Val Met Ala Cys Asp Asn Tyr Val Ala Ile Cys Lys Pro Leu
      115             120             125

His Tyr Thr Thr Ile Met Ser His Ser Leu Cys Ile Leu Leu Val Val
      130             135             140

Val Ala Trp Ile Gly Gly Phe Leu His Ala Asn Ile Gln Ile Leu Phe
      145             150             155             160

Thr Val Trp Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Phe Met
      165             170             175

Cys Asp Leu Cys Pro Leu Leu Lys Leu Val Cys Leu Asp Thr His Thr
      180             185             190

Leu Gly Leu Phe Val Ala Ala Asn Ser Gly Phe Ile Cys Leu Leu Asn
      195             200             205

Phe Leu Leu Trp Val Val Ser Tyr Val Ile Ile Leu Arg Cys Leu Lys
      210             215             220

Asn Tyr Ile Leu Glu Gly Arg Gly Lys Ala Leu Ser Thr Cys Ile Ser
      225             230             235             240

His Ile Ile Ile Val Val Leu Phe Phe Val Pro Cys Ile Phe Val Tyr
      245             250             255

Leu His Pro Val Thr Asn Ser Ala Asp Lys Ala Ala Ala Val Phe Tyr
      260             265             270

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Thr Met Val Val Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn
275 280 285

Ala Glu Val Lys Ser Ala Ile Arg Lys Leu Trp Arg Lys Lys Val Ile
290 295 300

Ser Asp Asn Asp
305

<210> 45
<211> 991
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (22) .. (867)

<400> 45
aaaacaaaac tgtttgtata a atg gtg ttt tct gtc atc tct aca gcc ctg 51
Met Val Phe Ser Val Ile Ser Thr Ala Leu
1 5 10

gaa ttc aca aac aat tca gag aca agc act atg acg gaa ttt gtt ctc 99
Glu Phe Thr Asn Asn Ser Glu Thr Ser Thr Met Thr Glu Phe Val Leu
15 20 25

ctt ggc ttt cct ggt tgt cag gag atg caa agt ttc ctc ttc tcc ctg 147
Leu Gly Phe Pro Gly Cys Gln Glu Met Gln Ser Phe Leu Phe Ser Leu
30 35 40

ttc ttt gtg atc tat gta ttt acc ata ata gga aat ggg acc att gtc 195
Phe Phe Val Ile Tyr Val Phe Thr Ile Ile Gly Asn Gly Thr Ile Val
45 50 55

tgt gct gtg aga ttg gac aaa cgg ctt cat acc cca atg tat att ctc 243
Cys Ala Val Arg Leu Asp Lys Arg Leu His Thr Pro Met Tyr Ile Leu
60 65 70

cta ggg aac ttt gct ttc ctt gaa atc cgg gaa gtt act tcc act gta 291
Leu Gly Asn Phe Ala Phe Leu Glu Ile Arg Glu Val Thr Ser Thr Val
75 80 85 90

ccc aac atg cta gtc aac ttc ctc tca gag aca aaa acc atc tct ttt 339
Pro Asn Met Leu Val Asn Phe Leu Ser Glu Thr Lys Thr Ile Ser Phe
95 100 105

gtt ggc tgt ttc ctc cag ttc tac ttt ttt act tcc ctt ggt aca ata 387
Val Gly Cys Phe Leu Gln Phe Tyr Phe Phe Thr Ser Leu Gly Thr Ile
110 115 120

gaa gca tac ttc ctc tgc atc atg gca tat gat cgg tac ctt gct atc 435
Glu Ala Tyr Phe Leu Cys Ile Met Ala Tyr Asp Arg Tyr Leu Ala Ile
125 130 135

tgc cgc cca ttg cac tac cca acc atc atg acc cca caa ctc tgc tac	483
Cys Arg Pro Leu His Tyr Pro Thr Ile Met Thr Pro Gln Leu Cys Tyr	
140 145 150	
ata ttg atg tct ttt tgc tgg gtg ttt gga ttc ctc agt tac tct gtc	531
Ile Leu Met Ser Phe Cys Trp Val Phe Gly Phe Leu Ser Tyr Ser Val	
155 160 165 170	
tcc act gtg caa ctg tct caa ctg cct ttc tgt ggg ccc aac atc atc	579
Ser Thr Val Gln Leu Ser Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile	
175 180 185	
aat cac ttt ttg tgt gac atg gac cca ctg atg gct ctg tcc tgt gcc	627
Asn His Phe Leu Cys Asp Met Asp Pro Leu Met Ala Leu Ser Cys Ala	
190 195 200	
tca gct cct atc act gag att atc ttc tat atc ctg agc tcc ctc att	675
Ser Ala Pro Ile Thr Glu Ile Ile Phe Tyr Ile Leu Ser Ser Leu Ile	
205 210 215	
atc att ctc act ctt ctg tac atc tgt ggc tcc tat atg ctt tac ctg	723
Ile Ile Leu Thr Leu Leu Tyr Ile Cys Gly Ser Tyr Met Leu Tyr Leu	
220 225 230	
ata gct gta tta aaa gtc cct tca gca gct ggc cag cag aag gcc ttt	771
Ile Ala Val Leu Lys Val Pro Ser Ala Ala Gly Gln Gln Lys Ala Phe	
235 240 245 250	
tcc acc tgt gga tct cat ctg aca gtg gtg tgt tta ttc ttt ggg gcc	819
Ser Thr Cys Gly Ser His Leu Thr Val Val Cys Leu Phe Phe Gly Ala	
255 260 265	
cta ctg gca atg tat gtg agc ccc aca act gat aac cca gct gca att	867
Leu Leu Ala Met Tyr Val Ser Pro Thr Thr Asp Asn Pro Ala Ala Ile	
270 275 280	
tagaagatta taactttgtt ctattctgtg gtgaccccoct tcttaaacc cctgatttac	927
agcttacgaa acaaagagat gaaggctgcg ttgaagaaag tcctgaggat agaatgagaa	987
taaa	991

<210> 46

<211> 282

<212> PRT

<213> Homo sapiens

<400> 46

Met Val Phe Ser Val Ile Ser Thr Ala Leu Glu Phe Thr Asn Asn Ser
1 5 10 15

Glu Thr Ser Thr Met Thr Glu Phe Val Leu Leu Gly Phe Pro Gly Cys
20 25 30

Gln Glu Met Gln Ser Phe Leu Phe Ser Leu Phe Phe Val Ile Tyr Val

35	40	45
Phe Thr Ile Ile Gly Asn Gly Thr Ile Val Cys Ala Val Arg Leu Asp		
50	55	60
Lys Arg Leu His Thr Pro Met Tyr Ile Leu Leu Gly Asn Phe Ala Phe		
65	70	75
80		
Leu Glu Ile Arg Glu Val Thr Ser Thr Val Pro Asn Met Leu Val Asn		
85	90	95
Phe Leu Ser Glu Thr Lys Thr Ile Ser Phe Val Gly Cys Phe Leu Gln		
100	105	110
Phe Tyr Phe Phe Thr Ser Leu Gly Thr Ile Glu Ala Tyr Phe Leu Cys		
115	120	125
Ile Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr		
130	135	140
Pro Thr Ile Met Thr Pro Gln Leu Cys Tyr Ile Leu Met Ser Phe Cys		
145	150	155
160		
Trp Val Phe Gly Phe Leu Ser Tyr Ser Val Ser Thr Val Gln Leu Ser		
165	170	175
Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile Asn His Phe Leu Cys Asp		
180	185	190
Met Asp Pro Leu Met Ala Leu Ser Cys Ala Ser Ala Pro Ile Thr Glu		
195	200	205
Ile Ile Phe Tyr Ile Leu Ser Ser Leu Ile Ile Ile Leu Thr Leu Leu		
210	215	220
Tyr Ile Cys Gly Ser Tyr Met Leu Tyr Leu Ile Ala Val Leu Lys Val		
225	230	235
240		
Pro Ser Ala Ala Gly Gln Gln Lys Ala Phe Ser Thr Cys Gly Ser His		
245	250	255
Leu Thr Val Val Cys Leu Phe Phe Gly Ala Leu Leu Ala Met Tyr Val		
260	265	270
Ser Pro Thr Thr Asp Asn Pro Ala Ala Ile		
275	280	

<210> 47
 <211> 933
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(921)

<400> 47

atg gag act gaa aac aat aca aca gtg aca gag ttc att att ttg gga	48
Met Glu Thr Glu Asn Asn Thr Thr Val Thr Glu Phe Ile Ile Leu Gly	
1 5 10 15	
tta aca gac aat cct atg cta tgt gcc att ttc ttc gtg ttt ttt cta	96
Leu Thr Asp Asn Pro Met Leu Cys Ala Ile Phe Phe Val Phe Phe Leu	
20 25 30	
gca gtt tat ata gtt act ata ccg gga aat att agc ata atc ctc tta	144
Ala Val Tyr Ile Val Thr Ile Pro Gly Asn Ile Ser Ile Ile Leu Leu	
35 40 45	
atc caa agc agc cca cag ctt cac acg cta atg tac ctt ttt ctc agc	192
Ile Gln Ser Ser Pro Gln Leu His Thr Leu Met Tyr Leu Phe Leu Ser	
50 55 60	
cat ttg gct tct gtg gac att ggg tat tcc ata tca gtt acg cca atc	240
His Leu Ala Ser Val Asp Ile Gly Tyr Ser Ile Ser Val Thr Pro Ile	
65 70 75 80	
att ctc atc aat ttc tta aga gag aaa acg act att cct gtc aca ggc	288
Ile Leu Ile Asn Phe Leu Arg Glu Lys Thr Thr Ile Pro Val Thr Gly	
85 90 95	
tgt ata gca cag ctt ggc tct gat gtc atg ttt gga acc aca gag tgc	336
Cys Ile Ala Gln Leu Gly Ser Asp Val Met Phe Gly Thr Thr Glu Cys	
100 105 110	
ttc ctg ctg gtc act atg atg gct atc tgc tct ccc ctg ctt tac tcc	384
Phe Leu Leu Val Thr Met Met Ala Ile Cys Ser Pro Leu Leu Tyr Ser	
115 120 125	
atc caa atg ccc cca gtc gtc tgc ttc ctc cta ctg gga gcc tcc tac	432
Ile Gln Met Pro Pro Val Val Cys Phe Leu Leu Leu Gly Ala Ser Tyr	
130 135 140	
ctg ggt gga tgc ctg aac gct tcg tct ttt aca ggc tgt ttg atg aac	480
Leu Gly Gly Cys Leu Asn Ala Ser Ser Phe Thr Gly Cys Leu Met Asn	
145 150 155 160	
ctg tcc ttc tgc ggt cca aat aaa atc aac cac ttt ttc tgt gac ctc	528
Leu Ser Phe Cys Gly Pro Asn Lys Ile Asn His Phe Phe Cys Asp Leu	
165 170 175	
ttc cca ctc ttg aag ctt tct tgt ggc cat gtt tac att gct gaa ata	576
Phe Pro Leu Leu Lys Leu Ser Cys Gly His Val Tyr Ile Ala Glu Ile	
180 185 190	
tcc cct gcc atc tcc tgt gca tct gtc ctt atc agc acg ctg ttt acc	624
Ser Pro Ala Ile Ser Cys Ala Ser Val Leu Ile Ser Thr Leu Phe Thr	
195 200 205	
ata atc gtg tcc tac atc tac atc ctt cac tcc atc ctg aag gtg tgc	672
Ile Ile Val Ser Tyr Ile Tyr Ile Leu His Ser Ile Leu Lys Val Cys	
210 215 220	

130	135	140
Leu Gly Gly Cys Leu Asn Ala Ser Ser Phe Thr Gly Cys Leu Met Asn		
145	150	155 160
Leu Ser Phe Cys Gly Pro Asn Lys Ile Asn His Phe Phe Cys Asp Leu		
	165	170 175
Phe Pro Leu Leu Lys Leu Ser Cys Gly His Val Tyr Ile Ala Glu Ile		
	180	185 190
Ser Pro Ala Ile Ser Cys Ala Ser Val Leu Ile Ser Thr Leu Phe Thr		
	195	200 205
Ile Ile Val Ser Tyr Ile Tyr Ile Leu His Ser Ile Leu Lys Val Cys		
	210	215 220
Ser Thr Glu Gly Arg Lys Lys Ala Phe Ser Thr Cys Ala Ser His Leu		
225	230	235 240
Thr Ala Val Thr Leu Phe Tyr Gly Thr Ile Leu Phe Val Tyr Val Met		
	245	250 255
Pro Lys Ser Ser Tyr Ser Ala Asp Gln Val Lys Val Ala Phe Val Ile		
	260	265 270
Tyr Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg		
	275	280 285
Asn Lys Glu Val Lys Glu Ala Met Arg Lys Leu Met Ala Arg Thr His		
	290	295 300
Trp Phe Ser		
305		

<210> 49
 <211> 980
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (21) .. (968)

<400> 49
 atgaatttcc aaactctgac atg gct cct gaa aat ttc acc agg gtc act gag 53
 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu
 1 5 10

ttt att ctt aca ggt gtc tct agc tgt cca gag ctc cag att ccc ctc 101
 Phe Ile Leu Thr Gly Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu
 15 20 25

ttc ctg gtc ttt ctg gtg ctc tat ggg ctg acc atg gca ggg aac ctg 149
 Phe Leu Val Phe Leu Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu

30	35	40	
ggc atc atc acc ctc acc agt gtt gac tct cga ctt caa acc ccc atg Gly Ile Ile Thr Leu Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met 45 50 55			197
tac ttt ttc ctg caa cat ctg gct ctc att aat ctt ggt aac tct act Tyr Phe Phe Leu Gln His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr 60 65 70 75			245
gtc att gcc cct aaa atg ctg att aac ttt tta gta aag aag aaa act Val Ile Ala Pro Lys Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr 80 85 90			293
acc tca ttc tat gaa tgt gcc acc caa ctg gga ggg ttc ttg ttc ttt Thr Ser Phe Tyr Glu Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe 95 100 105			341
att gta tgc gag gta atc atg ctg gct ttg atg gcc tgt gac cgc tat Ile Val Ser Glu Val Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr 110 115 120			389
gtg gct att tgt aac cct ctg ctg tac atg gtg gtg gtg tct cgg cgg Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg 125 130 135			437
ctc tgc ctc ctg ctg gtc tcc ctc aca tac ctc tat ggc ttt tct aca Leu Cys Leu Leu Leu Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr 140 145 150 155			485
gct att gtg gtt tca tct tat gta ttc tct gtg tct tat tgc tct tct Ala Ile Val Val Ser Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser 160 165 170			533
aat ata atc aat cat ttt tac tgt gat aat gtt cct ctg tta gca tta Asn Ile Ile Asn His Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu 175 180 185			581
tct tgc tct gat act tac tta cca gaa aca gtt gtc ttt ata tct gca Ser Cys Ser Asp Thr Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala 190 195 200			629
gca aca aat gtg gtt ggt tcc ttg att ata gtt cta gta tct tat ttc Ala Thr Asn Val Val Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe 205 210 215			677
aat att gtt ttg tct att tta aaa ata tgt tca tca gaa gga agg aaa Asn Ile Val Leu Ser Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys 220 225 230 235			725
aaa gcc ttt tct acc tgt gct tca cat atg atg gca gtc aca att ttt Lys Ala Phe Ser Thr Cys Ala Ser His Met Met Ala Val Thr Ile Phe 240 245 250			773
tat ggg aca ttg cta ttc atg tat gtg cag ccc cga agt aac cat tca Tyr Gly Thr Leu Leu Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser 255 260 265			821

ttg gat act gat gat aag atg gct tct gtg ttt tac acg ttg gta att 869
 Leu Asp Thr Asp Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile
 270 275 280
 cct atg ctg aat ccc ttg atc tac agc ctg agg aat aag gat gtg aag 917
 Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys
 285 290 295
 act gct cta cag aga ttc atg aca aat ctg tgc tat tcc ttt aaa aca 965
 Thr Ala Leu Gln Arg Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr
 300 305 310 315
 atg taatttttaa ca 980
 Met

<210> 50
 <211> 316
 <212> PRT
 <213> Homo sapiens

<400> 50
 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly
 1 5 10 15
 Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu
 20 25 30
 Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu
 35 40 45
 Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln
 50 55 60
 His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys
 65 70 75 80
 Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu
 85 90 95
 Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val
 100 105 110
 Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125
 Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu
 130 135 140
 Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser
 145 150 155 160
 Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His
 165 170 175
 Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr

180	185	190
Tyr Leu Pro Glu Thr Val Val	Phe Ile Ser Ala Ala Thr Asn Val Val	
195	200	205
Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser		
210	215	220
Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr		
225	230	235
Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu		
245	250	255
Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp		
260	265	270
Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro		
275	280	285
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg		
290	295	300
Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met		
305	310	315

<210> 51
 <211> 980
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (21)..(968)

<400> 51
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 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu
 1 5 10

ttt att ctt aca ggt gtc tct agc tgt cca gag ctc cag att ccc ctc 101
 Phe Ile Leu Thr Gly Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu
 15 20 25

ttc ctg gtc ttt ctg gtg ctc tat ggg ctg acc atg gca ggg aac ctg 149
 Phe Leu Val Phe Leu Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu
 30 35 40

ggc atc atc acc ctc acc agt gtt gac tct cga ctt caa acc ccc atg 197
 Gly Ile Ile Thr Leu Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met
 45 50 55

tac ttt ttc ctg caa cat ctg gct ctc att aat ctt ggt aac tct act 245
 Tyr Phe Phe Leu Gln His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr
 60 65 70 75

gtc att gcc cct aaa atg ctg att aac ttt tta gta aag aag aaa act	293
Val Ile Ala Pro Lys Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr	
80 85 90	
acc tca ttc tat gaa tgt gcc acc caa ctg gga ggg ttc ttg ttc ttt	341
Thr Ser Phe Tyr Glu Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe	
95 100 105	
att gta tgc gag gta atc atg ctg gct ttg atg gcc tgt gac cgc tat	389
Ile Val Ser Glu Val Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr	
110 115 120	
gtg gct att tgt aac cct ctg ctg tac atg gtg gtg gtg tct cgg cgg	437
Val Ala Ile Cys Asn Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg	
125 130 135	
ctc tgc ctc ctg ctg gtc tcc ctc aca tac ctc tat ggc ttt tct aca	485
Leu Cys Leu Leu Leu Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr	
140 145 150 155	
gct att gtg gtt tca tct tat gta ttc tct gtg tct tat tgc tct tct	533
Ala Ile Val Val Ser Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser	
160 165 170	
aat ata atc aat cat ttt tac tgt gat aat gtt cct ctg tta gca tta	581
Asn Ile Ile Asn His Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu	
175 180 185	
tct tgc tct gat act tac tta cca gaa aca gtt gtc ttt ata tct gca	629
Ser Cys Ser Asp Thr Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala	
190 195 200	
gca aca aat gtg gtt ggt tcc ttg att ata gtt cta gta tct tat ttc	677
Ala Thr Asn Val Val Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe	
205 210 215	
aat att gtt ttg tct att tta aaa ata tgt tca tca gaa gga agg aaa	725
Asn Ile Val Leu Ser Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys	
220 225 230 235	
aaa gcc ttt tct acc tgt gct tca cat atg atg gca gtc aca att ttt	773
Lys Ala Phe Ser Thr Cys Ala Ser His Met Met Ala Val Thr Ile Phe	
240 245 250	
tat ggg aca ttg cta ttc atg tat gtg cag ccc cga agt aac cat tca	821
Tyr Gly Thr Leu Leu Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser	
255 260 265	
ttg gat act gat gat aag atg gct tct gtg ttt tac acg ttg gta att	869
Leu Asp Thr Asp Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile	
270 275 280	
cct atg ctg aat ccc ttg atc tac agc ctg agg aat aag gat gtg aag	917
Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys	
285 290 295	

act gct cta cag aga ttc atg aca aat ctg tgc tat tcc ttt aaa aca 965
 Thr Ala Leu Gln Arg Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr
 300 305 310 315

atg taatttttaaa ca 980
 Met

<210> 52
 <211> 316
 <212> PRT
 <213> Homo sapiens

<400> 52
 Met Ala Pro Glu Asn Phe Thr Arg Val Thr Glu Phe Ile Leu Thr Gly
 1 5 10 15

Val Ser Ser Cys Pro Glu Leu Gln Ile Pro Leu Phe Leu Val Phe Leu
 20 25 30

Val Leu Tyr Gly Leu Thr Met Ala Gly Asn Leu Gly Ile Ile Thr Leu
 35 40 45

Thr Ser Val Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Leu Gln
 50 55 60

His Leu Ala Leu Ile Asn Leu Gly Asn Ser Thr Val Ile Ala Pro Lys
 65 70 75 80

Met Leu Ile Asn Phe Leu Val Lys Lys Lys Thr Thr Ser Phe Tyr Glu
 85 90 95

Cys Ala Thr Gln Leu Gly Gly Phe Leu Phe Phe Ile Val Ser Glu Val
 100 105 110

Ile Met Leu Ala Leu Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Asn
 115 120 125

Pro Leu Leu Tyr Met Val Val Val Ser Arg Arg Leu Cys Leu Leu Leu
 130 135 140

Val Ser Leu Thr Tyr Leu Tyr Gly Phe Ser Thr Ala Ile Val Val Ser
 145 150 155 160

Ser Tyr Val Phe Ser Val Ser Tyr Cys Ser Ser Asn Ile Ile Asn His
 165 170 175

Phe Tyr Cys Asp Asn Val Pro Leu Leu Ala Leu Ser Cys Ser Asp Thr
 180 185 190

Tyr Leu Pro Glu Thr Val Val Phe Ile Ser Ala Ala Thr Asn Val Val
 195 200 205

Gly Ser Leu Ile Ile Val Leu Val Ser Tyr Phe Asn Ile Val Leu Ser
 210 215 220

Ile Leu Lys Ile Cys Ser Ser Glu Gly Arg Lys Lys Ala Phe Ser Thr

225	230	235	240
Cys Ala Ser His Met Met Ala Val Thr Ile Phe Tyr Gly Thr Leu Leu			
	245	250	255
Phe Met Tyr Val Gln Pro Arg Ser Asn His Ser Leu Asp Thr Asp Asp			
	260	265	270
Lys Met Ala Ser Val Phe Tyr Thr Leu Val Ile Pro Met Leu Asn Pro			
	275	280	285
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Thr Ala Leu Gln Arg			
	290	295	300
Phe Met Thr Asn Leu Cys Tyr Ser Phe Lys Thr Met			
	305	310	315

<210> 53
 <211> 958
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3) .. (953)

<400> 53	
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Met Glu Gln Ser Asn Tyr Ser Val Tyr Ala Asp Phe Ile Leu Leu	
1 5 10 15	
ggt ttg ttc agc aac gcc cgt ttc ccc tgg ctt ctc ttt gcc ctc att	95
Gly Leu Phe Ser Asn Ala Arg Phe Pro Trp Leu Leu Phe Ala Leu Ile	
20 25 30	
ctc ctg gtc ttt gtg acc tcc ata gcc agc aac gtg gtc aag atc att	143
Leu Leu Val Phe Val Thr Ser Ile Ala Ser Asn Val Val Lys Ile Ile	
35 40 45	
ctc atc cac ata gac tcc cgc ctc cac acc ccc atg tac ttc ctg ctc	191
Leu Ile His Ile Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu	
50 55 60	
agc cag ctc tcc ctc agg gac atc ttg tat att tcc acc att gtg ccc	239
Ser Gln Leu Ser Leu Arg Asp Ile Leu Tyr Ile Ser Thr Ile Val Pro	
65 70 75	
aaa atg ctg gtc gac cag gtg atg agc cag aga gcc att tcc ttt gca	287
Lys Met Leu Val Asp Gln Val Met Ser Gln Arg Ala Ile Ser Phe Ala	
80 85 90 95	
gga tgc act gcc caa cac ttc ctc tac ttg acc tta gca ggg gct gag	335
Gly Cys Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Ala Gly Ala Glu	
100 105 110	

ttc ttc ctc cta gga ctc atg tcc tgt gat cgc tac gta gcc atc tgc	383
Phe Phe Leu Leu Gly Leu Met Ser Cys Asp Arg Tyr Val Ala Ile Cys	
115 120 125	
aac cct ctg cac tat cct gac ctc atg agc cgc aag atc tgc tgg ttg	431
Asn Pro Leu His Tyr Pro Asp Leu Met Ser Arg Lys Ile Cys Trp Leu	
130 135 140	
att gtg gcg gca gcc tgg ctg gga ggg tct atc gat ggt ttc ttg ctc	479
Ile Val Ala Ala Ala Trp Leu Gly Gly Ser Ile Asp Gly Phe Leu Leu	
145 150 155	
acc ccc gtc acc atg cag ttc ccc ttc tgt gcc tct cgg gag atc aac	527
Thr Pro Val Thr Met Gln Phe Pro Phe Cys Ala Ser Arg Glu Ile Asn	
160 165 170 175	
cac ttc ttc tgc gag gtg cct gcc ctt ctg aag ctc tcc tgc acg gac	575
His Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Thr Asp	
180 185 190	
aca tca gcc tac gag aca gcc atg tat gtc tgc tgt att atg atg ctc	623
Thr Ser Ala Tyr Glu Thr Ala Met Tyr Val Cys Cys Ile Met Met Leu	
195 200 205	
ctc atc cct ttc tct gtg atc tcg ggc tct tac aca aga att ctc att	671
Leu Ile Pro Phe Ser Val Ile Ser Gly Ser Tyr Thr Arg Ile Leu Ile	
210 215 220	
act gtt tat agg atg agc gag gca gag ggg agg cga aag gct gtg gcc	719
Thr Val Tyr Arg Met Ser Glu Ala Glu Gly Arg Arg Lys Ala Val Ala	
225 230 235	
acc tgc tcc tca cac atg gtg gtt gtc agc ctc ttc tat ggg gct gcc	767
Thr Cys Ser Ser His Met Val Val Val Ser Leu Phe Tyr Gly Ala Ala	
240 245 250 255	
atg tac aca tac gtg ctg cct cat tct tac cac acc cct gag cag gac	815
Met Tyr Thr Tyr Val Leu Pro His Ser Tyr His Thr Pro Glu Gln Asp	
260 265 270	
aaa gct gta tct gcc ttc tac acc atc ctc act ccc atg ctc aat cca	863
Lys Ala Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro	
275 280 285	
ctc att tac agc ctt agg aac aag gat gtc acg ggg gcc cta cag aag	911
Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Gln Lys	
290 295 300	
gtt gtt ggg agg tgt gtg tcc tca gga aag gta acc act ttc taaac	958
Val Val Gly Arg Cys Val Ser Ser Gly Lys Val Thr Thr Phe	
305 310 315	

<210> 54
 <211> 317
 <212> PRT
 <213> Homo sapiens

<400> 54

Met Glu Gln Ser Asn Tyr Ser Val Tyr Ala Asp Phe Ile Leu Leu Gly
1 5 10 15
Leu Phe Ser Asn Ala Arg Phe Pro Trp Leu Leu Phe Ala Leu Ile Leu
20 25 30
Leu Val Phe Val Thr Ser Ile Ala Ser Asn Val Val Lys Ile Ile Leu
35 40 45
Ile His Ile Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ser
50 55 60
Gln Leu Ser Leu Arg Asp Ile Leu Tyr Ile Ser Thr Ile Val Pro Lys
65 70 75 80
Met Leu Val Asp Gln Val Met Ser Gln Arg Ala Ile Ser Phe Ala Gly
85 90 95
Cys Thr Ala Gln His Phe Leu Tyr Leu Thr Leu Ala Gly Ala Glu Phe
100 105 110
Phe Leu Leu Gly Leu Met Ser Cys Asp Arg Tyr Val Ala Ile Cys Asn
115 120 125
Pro Leu His Tyr Pro Asp Leu Met Ser Arg Lys Ile Cys Trp Leu Ile
130 135 140
Val Ala Ala Ala Trp Leu Gly Gly Ser Ile Asp Gly Phe Leu Leu Thr
145 150 155 160
Pro Val Thr Met Gln Phe Pro Phe Cys Ala Ser Arg Glu Ile Asn His
165 170 175
Phe Phe Cys Glu Val Pro Ala Leu Leu Lys Leu Ser Cys Thr Asp Thr
180 185 190
Ser Ala Tyr Glu Thr Ala Met Tyr Val Cys Cys Ile Met Met Leu Leu
195 200 205
Ile Pro Phe Ser Val Ile Ser Gly Ser Tyr Thr Arg Ile Leu Ile Thr
210 215 220
Val Tyr Arg Met Ser Glu Ala Glu Gly Arg Arg Lys Ala Val Ala Thr
225 230 235 240
Cys Ser Ser His Met Val Val Val Ser Leu Phe Tyr Gly Ala Ala Met
245 250 255
Tyr Thr Tyr Val Leu Pro His Ser Tyr His Thr Pro Glu Gln Asp Lys
260 265 270
Ala Val Ser Ala Phe Tyr Thr Ile Leu Thr Pro Met Leu Asn Pro Leu
275 280 285
Ile Tyr Ser Leu Arg Asn Lys Asp Val Thr Gly Ala Leu Gln Lys Val

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290                               295                               300
Val Gly Arg Cys Val Ser Ser Gly Lys Val Thr Thr Phe
305                               310                               315

<210> 55
<211> 963
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (11)..(955)

<400> 55
gtgaaacctc atg gcc aac atc acc tgg atg gcc aac cac act gga aag      49
      Met Ala Asn Ile Thr Trp Met Ala Asn His Thr Gly Lys
            1                               5                               10

ttg gat ttc atc ctc atg gga ctc ttc aga cga tcc aaa cat cca gct      97
Leu Asp Phe Ile Leu Met Gly Leu Phe Arg Arg Ser Lys His Pro Ala
      15                               20                               25

cta ctt agt gtg gtc atc ttt gtg gtt ttc ctg atg gcg ttg tct gaa      145
Leu Leu Ser Val Val Ile Phe Val Val Phe Leu Met Ala Leu Ser Glu
      30                               35                               40                               45

aat gct gtc ctg atc ctt ctg ata cac tgt gac acc tac ctc cac acc      193
Asn Ala Val Leu Ile Leu Leu Ile His Cys Asp Thr Tyr Leu His Thr
            50                               55                               60

ccc atg tac ttt ttc atc agt caa ttg tct ctc atg gac atg gcg tac      241
Pro Met Tyr Phe Phe Ile Ser Gln Leu Ser Leu Met Asp Met Ala Tyr
            65                               70                               75

att tct gtc act gtg ccc aag atg ctc ctg gac cag gtc atg ggt gtg      289
Ile Ser Val Thr Val Pro Lys Met Leu Leu Asp Gln Val Met Gly Val
            80                               85                               90

aat aag atc tca gcc cct gag tgt ggg atg cag atg ttc ctc tat ctg      337
Asn Lys Ile Ser Ala Pro Glu Cys Gly Met Gln Met Phe Leu Tyr Leu
            95                               100                               105

aca cta gca ggt tcg gaa ttt ttc ctt cta gcc acc atg gcc tat gac      385
Thr Leu Ala Gly Ser Glu Phe Phe Leu Leu Ala Thr Met Ala Tyr Asp
      110                               115                               120                               125

cgc tac gtg gcc atc tgc cat cct ctc cgt tac cct gtc ctc atg aac      433
Arg Tyr Val Ala Ile Cys His Pro Leu Arg Tyr Pro Val Leu Met Asn
            130                               135                               140

cat agg gtc tgt ctt ttc ctg gca tcg ggc tgc tgg ttc ctg ggc tca      481
His Arg Val Cys Leu Phe Leu Ala Ser Gly Cys Trp Phe Leu Gly Ser
            145                               150                               155

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gtg gat ggc ttc atg ctc act ccc atc acc atg agc ttc ccc ttc tgc 529
 Val Asp Gly Phe Met Leu Thr Pro Ile Thr Met Ser Phe Pro Phe Cys
 160 165 170

aga tcc tgg gag att cat cat ttc ttc tgt gaa gtc cct gct gta acg 577
 Arg Ser Trp Glu Ile His His Phe Phe Cys Glu Val Pro Ala Val Thr
 175 180 185

atc ctg tcc tgc tca gac acc tca ctc tat gag acc ctc atg tac cta 625
 Ile Leu Ser Cys Ser Asp Thr Ser Leu Tyr Glu Thr Leu Met Tyr Leu
 190 195 200 205

tgc tgt gtc ctc atg ctc ctc atc cct gtg acg atc att tca agc tcc 673
 Cys Cys Val Leu Met Leu Leu Ile Pro Val Thr Ile Ile Ser Ser Ser
 210 215 220

tat tta ctc atc ctc ctc acc atc cac agg atg aac tca gca gag ggc 721
 Tyr Leu Leu Ile Leu Leu Thr Ile His Arg Met Asn Ser Ala Glu Gly
 225 230 235

cgg aaa aag gcc ttt gcc acc tgc tcc tcc cac ctg act gtg gtc atc 769
 Arg Lys Lys Ala Phe Ala Thr Cys Ser Ser His Leu Thr Val Val Ile
 240 245 250

ctc ttc tat ggg gct gcc gtc tac acc tac atg ctc ccc agc tcc tac 817
 Leu Phe Tyr Gly Ala Ala Val Tyr Thr Tyr Met Leu Pro Ser Ser Tyr
 255 260 265

cac acc cct gag aag gac atg atg gta tct gtc ttc tat acc atc ctc 865
 His Thr Pro Glu Lys Asp Met Met Val Ser Val Phe Tyr Thr Ile Leu
 270 275 280 285

act ccg gtg ctg aac cct tta atc tat agt ctt agg aat aag gat gtc 913
 Thr Pro Val Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Asp Val
 290 295 300

atg ggg gct ctg aag aaa atg tta act gtg aga ttc gtc ctt taggaaat 963
 Met Gly Ala Leu Lys Lys Met Leu Thr Val Arg Phe Val Leu
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Ile Leu Met Gly Leu Phe Arg Arg Ser Lys His Pro Ala Leu Leu Ser
 20 25 30

Val Val Ile Phe Val Val Phe Leu Met Ala Leu Ser Glu Asn Ala Val
 35 40 45

Leu Ile Leu Leu Ile His Cys Asp Thr Tyr Leu His Thr Pro Met Tyr

50					55					60					
Phe	Phe	Ile	Ser	Gln	Leu	Ser	Leu	Met	Asp	Met	Ala	Tyr	Ile	Ser	Val
65					70					75					80
Thr	Val	Pro	Lys	Met	Leu	Leu	Asp	Gln	Val	Met	Gly	Val	Asn	Lys	Ile
				85					90					95	
Ser	Ala	Pro	Glu	Cys	Gly	Met	Gln	Met	Phe	Leu	Tyr	Leu	Thr	Leu	Ala
			100					105					110		
Gly	Ser	Glu	Phe	Phe	Leu	Leu	Ala	Thr	Met	Ala	Tyr	Asp	Arg	Tyr	Val
		115					120					125			
Ala	Ile	Cys	His	Pro	Leu	Arg	Tyr	Pro	Val	Leu	Met	Asn	His	Arg	Val
	130					135					140				
Cys	Leu	Phe	Leu	Ala	Ser	Gly	Cys	Trp	Phe	Leu	Gly	Ser	Val	Asp	Gly
145					150					155					160
Phe	Met	Leu	Thr	Pro	Ile	Thr	Met	Ser	Phe	Pro	Phe	Cys	Arg	Ser	Trp
				165					170					175	
Glu	Ile	His	His	Phe	Phe	Cys	Glu	Val	Pro	Ala	Val	Thr	Ile	Leu	Ser
			180					185					190		
Cys	Ser	Asp	Thr	Ser	Leu	Tyr	Glu	Thr	Leu	Met	Tyr	Leu	Cys	Cys	Val
		195					200					205			
Leu	Met	Leu	Leu	Ile	Pro	Val	Thr	Ile	Ile	Ser	Ser	Ser	Tyr	Leu	Leu
	210					215					220				
Ile	Leu	Leu	Thr	Ile	His	Arg	Met	Asn	Ser	Ala	Glu	Gly	Arg	Lys	Lys
225					230					235					240
Ala	Phe	Ala	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Leu	Phe	Tyr
				245					250					255	
Gly	Ala	Ala	Val	Tyr	Thr	Tyr	Met	Leu	Pro	Ser	Ser	Tyr	His	Thr	Pro
			260					265					270		
Glu	Lys	Asp	Met	Met	Val	Ser	Val	Phe	Tyr	Thr	Ile	Leu	Thr	Pro	Val
		275					280					285			
Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Asp	Val	Met	Gly	Ala
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<400> 57

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gga ctc tca gat gat cct gaa ctg cag ccc gtc ctc ttt ggg ctg ttc 97
Gly Leu Ser Asp Asp Pro Glu Leu Gln Pro Val Leu Phe Gly Leu Phe
                20             25             30

ctg tcc atg tac ctg gtc acg gtg ctg ggg aac ctg ctc atc att ctg 145
Leu Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu
                35             40             45

gcc gtc agc tct gac tcc cac ctc cac acc ccc atg tac ttc ttc ctc 193
Ala Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu
                50             55             60

tcc aac ctg tcc ttt gtt gac atc tgt ttc atc tcc acc aca gtc ccc 241
Ser Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro
                65             70             75

aag atg cta gtg agc atc cag gca cgg agc aaa gac atc tcc tac atg 289
Lys Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met
                80             85             90             95

ggg tgc ctc act cag gtg tat ttt tta atg atg ttt gct gga atg gat 337
Gly Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp
                100             105             110

act ttc cta ctg gcc gtg atg gcc tat gac cgg ttt gtg gcc atc tgc 385
Thr Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys
                115             120             125

cac cca ctg cac tac acg gtc atc atg aac ccc tgc ctc tgt ggc ctc 433
His Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu
                130             135             140

ctg gtt ctg gca tct tgg ttc atc att ttc tgg ttc tcc ctg gtt cat 481
Leu Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His
                145             150             155

att cta ctg atg aag agg ttg acc ttc tcc aca ggc act gag att ccg 529
Ile Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro
                160             165             170             175

cat ttc ttc tgt gaa ccg gct cag gtc ctc aag gtg gcc tgc tct aac 577
His Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn
                180             185             190

acc ctc ctc aat aac att gtc ttg tat gtg gcc acg gca ctg ctg ggt 625
Thr Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly
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Val Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser	
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tcc tta atg gga atg tcc tcc acc aag ggc aag tac aaa gcc ttt tcc	721
Ser Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser	
225 230 235	
acc tgt gga tct cac ctc tgt gtg gtc tcc ttg ttc tat gga aca gga	769
Thr Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly	
240 245 250 255	
ctt ggg gtc tat ctg agt tct gct gtg acc cat tct tcc cag agc agc	817
Leu Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser	
260 265 270	
tcc acc gcc tca gtg atg tac gcc atg gtc acc ccc atg ctg aac ccc	865
Ser Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro	
275 280 285	
ttc atc tac agc ctg agg aac aag gat gtg aag ggg gcc ctg gaa aga	913
Phe Ile Tyr Ser Leu Arg Asn Lys Asp Val Lys Gly Ala Leu Glu Arg	
290 295 300	
ctc ctc agc agg gcc gac tct tgt cca tgacaaatca gggcctcaga	960
Leu Leu Ser Arg Ala Asp Ser Cys Pro	
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20 25 30	
Ser Met Tyr Leu Val Thr Val Leu Gly Asn Leu Leu Ile Ile Leu Ala	
35 40 45	
Val Ser Ser Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
Asn Leu Ser Phe Val Asp Ile Cys Phe Ile Ser Thr Thr Val Pro Lys	
65 70 75 80	
Met Leu Val Ser Ile Gln Ala Arg Ser Lys Asp Ile Ser Tyr Met Gly	
85 90 95	
Cys Leu Thr Gln Val Tyr Phe Leu Met Met Phe Ala Gly Met Asp Thr	
100 105 110	

Phe Leu Leu Ala Val Met Ala Tyr Asp Arg Phe Val Ala Ile Cys His
115 120 125
Pro Leu His Tyr Thr Val Ile Met Asn Pro Cys Leu Cys Gly Leu Leu
130 135 140
Val Leu Ala Ser Trp Phe Ile Ile Phe Trp Phe Ser Leu Val His Ile
145 150 155 160
Leu Leu Met Lys Arg Leu Thr Phe Ser Thr Gly Thr Glu Ile Pro His
165 170 175
Phe Phe Cys Glu Pro Ala Gln Val Leu Lys Val Ala Cys Ser Asn Thr
180 185 190
Leu Leu Asn Asn Ile Val Leu Tyr Val Ala Thr Ala Leu Leu Gly Val
195 200 205
Phe Pro Val Ala Gly Ile Leu Phe Ser Tyr Ser Gln Ile Val Ser Ser
210 215 220
Leu Met Gly Met Ser Ser Thr Lys Gly Lys Tyr Lys Ala Phe Ser Thr
225 230 235 240
Cys Gly Ser His Leu Cys Val Val Ser Leu Phe Tyr Gly Thr Gly Leu
245 250 255
Gly Val Tyr Leu Ser Ser Ala Val Thr His Ser Ser Gln Ser Ser Ser
260 265 270
Thr Ala Ser Val Met Tyr Ala Met Val Thr Pro Met Leu Asn Pro Phe
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Leu Ser Arg Ala Asp Ser Cys Pro
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Leu Gly Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly	
15 20 25 30	
ttc tct gtg gtc ttc gtg ggg att gtg tta gga aac ctg ctc atc ttg	146
Phe Ser Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu	
35 40 45	
gtg act gtg acc ttt gat tcg ctc ctt cac aca cca atg tat ttt ctg	194
Val Thr Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu	
50 55 60	
ctt agc aac ctc tcc tgc att gat atg atc ctg gct tct ttt gct acc	242
Leu Ser Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr	
65 70 75	
cct aag atg att gta gat ttc ctc cga gaa cgt aag acc atc tca tgg	290
Pro Lys Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp	
80 85 90	
tgg gga tgt tat tcc cag atg ttc ttt atg cac ctc ctg ggt ggg agt	338
Trp Gly Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser	
95 100 105 110	
gag atg atg ttg ctt gta gcc atg gca ata gac agg tat gtt gcc ata	386
Glu Met Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aaa ccc ctc cat tac atg acc atc atg agc cca cgg gtg ctc act	434
Cys Lys Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr	
130 135 140	
ggg cta ctg tta tcc tcc tat gca gtt gga ttt gtg cac tca tct agt	482
Gly Leu Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser	
145 150 155	
caa atg gct ttc atg ttg act ttg ccc ttc tgt ggt ccc aat gtt ata	530
Gln Met Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile	
160 165 170	
gac agc ttt ttc tgt gac ctt ccc ctt gtg att aaa ctt gcc tgc aag	578
Asp Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys	
175 180 185 190	
gac acc tac atc cta cag ctc ctg gtc att gct gac agt ggg ctc ctg	626
Asp Thr Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu	
195 200 205	
tca ctg gtc tgc ttc ctc ctc ttg ctt gtc tcc tat gga gtc ata ata	674
Ser Leu Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile	
210 215 220	
ttc tca gtt agg tac cgt gct gct agt cga tcc tct aag gct ttc tcc	722
Phe Ser Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser	
225 230 235	
act ctc tca gct cac atc aca gtt gtg act ctg ttc ttt gct ccg tgt	770
Thr Leu Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys	

240	245	250	
gtc ttt atc tac gtc tgg ccc ttc agc aga tac tcg gta gat aaa att			818
Val Phe Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile			
255	260	265	270
ctt tct gtg ttt tac aca att ttc aca cct ctc tta aat cct att att			866
Leu Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile			
	275	280	285
tat aca tta aga aat caa gag gta aaa gca gcc att aaa aaa aga ctc			914
Tyr Thr Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu			
	290	295	300
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Cys Ile			
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Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly Phe Ser			
	20	25	30
Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr			
	35	40	45
Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser			
	50	55	60
Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys			
65	70	75	80
Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly			
	85	90	95
Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met			
	100	105	110
Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys			
	115	120	125
Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu			
	130	135	140
Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met			
145	150	155	160
Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser			
	165	170	175

Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr
 180 185 190
 Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu
 195 200 205
 Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser
 210 215 220
 Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu
 225 230 235 240
 Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe
 245 250 255
 Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser
 260 265 270
 Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr
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 290 295 300

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 Leu Gly Leu Ser Lys Ser Gln Asn Leu Gln Ile Leu Phe Phe Leu Gly
 15 20 25 30
 ttc tct gtg gtc ttc gtg ggg att gtg tta gga aac ctg ctc atc ttg 146
 Phe Ser Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu
 35 40 45
 gtg act gtg acc ttt gat tcg ctc ctt cac aca cca atg tat ttt ctg 194
 Val Thr Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu
 50 55 60
 ctt agc aac ctc tcc tgc att gat atg atc ctg gct tct ttt gct acc 242
 Leu Ser Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr
 65 70 75
 cct aag atg att gta gat ttc ctc cga gaa cgt aag acc atc tca tgg 290

Pro Lys Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp	
80 85 90	
tgg gga tgt tat tcc cag atg ttc ttt atg cac ctc ctg ggt ggg agt	338
Trp Gly Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser	
95 100 105 110	
gag atg atg ttg ctt gta gcc atg gca ata gac agg tat gtt gcc ata	386
Glu Met Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile	
115 120 125	
tgc aaa ccc ctc cat tac atg acc atc atg agc cca cgg gtg ctc act	434
Cys Lys Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr	
130 135 140	
ggg cta ctg tta tcc tcc tat gca gtt gga ttt gtg cac tca tct agt	482
Gly Leu Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser	
145 150 155	
caa atg gct ttc atg ttg act ttg ccc ttc tgt ggt ccc aat gtt ata	530
Gln Met Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile	
160 165 170	
gac agc ttt ttc tgt gac ctt ccc ctt gtg att aaa ctt gcc tgc aag	578
Asp Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys	
175 180 185 190	
gac acc tac atc cta cag ctc ctg gtc att gct gac agt ggg ctc ctg	626
Asp Thr Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu	
195 200 205	
tca ctg gtc tgc ttc ctc ctc ttg ctt gtc tcc tat gga gtc ata ata	674
Ser Leu Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile	
210 215 220	
ttc tca gtt agg tac cgt gct gct agt cga tcc tct aag gct ttc tcc	722
Phe Ser Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser	
225 230 235	
act ctc tca gct cac atc aca gtt gtg act ctg ttc ttt gct ccg tgt	770
Thr Leu Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys	
240 245 250	
gtc ttt atc tac gtc tgg ccc ttc agc aga tac tcg gta gat aaa att	818
Val Phe Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile	
255 260 265 270	
ctt tct gtg ttt tac aca att ttc aca cct ctc tta aat cct att att	866
Leu Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile	
275 280 285	
tat aca tta aga aat caa gag gta aaa gca gcc att aaa aaa aga ctc	914
Tyr Thr Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu	
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Cys Ile	

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 Val Val Phe Val Gly Ile Val Leu Gly Asn Leu Leu Ile Leu Val Thr
 35 40 45
 Val Thr Phe Asp Ser Leu Leu His Thr Pro Met Tyr Phe Leu Leu Ser
 50 55 60
 Asn Leu Ser Cys Ile Asp Met Ile Leu Ala Ser Phe Ala Thr Pro Lys
 65 70 75 80
 Met Ile Val Asp Phe Leu Arg Glu Arg Lys Thr Ile Ser Trp Trp Gly
 85 90 95
 Cys Tyr Ser Gln Met Phe Phe Met His Leu Leu Gly Gly Ser Glu Met
 100 105 110
 Met Leu Leu Val Ala Met Ala Ile Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Met Thr Ile Met Ser Pro Arg Val Leu Thr Gly Leu
 130 135 140
 Leu Leu Ser Ser Tyr Ala Val Gly Phe Val His Ser Ser Ser Gln Met
 145 150 155 160
 Ala Phe Met Leu Thr Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Ser
 165 170 175
 Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Lys Asp Thr
 180 185 190
 Tyr Ile Leu Gln Leu Leu Val Ile Ala Asp Ser Gly Leu Leu Ser Leu
 195 200 205
 Val Cys Phe Leu Leu Leu Leu Val Ser Tyr Gly Val Ile Ile Phe Ser
 210 215 220
 Val Arg Tyr Arg Ala Ala Ser Arg Ser Ser Lys Ala Phe Ser Thr Leu
 225 230 235 240
 Ser Ala His Ile Thr Val Val Thr Leu Phe Phe Ala Pro Cys Val Phe
 245 250 255
 Ile Tyr Val Trp Pro Phe Ser Arg Tyr Ser Val Asp Lys Ile Leu Ser

260	265	270
Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr Thr		
275	280	285
Leu Arg Asn Gln Glu Val Lys Ala Ala Ile Lys Lys Arg Leu Cys Ile		
290	295	300

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 Val Leu Leu Gly Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe
 15 20 25

 ctt ata ttt tca cta ctt tat cta gca att ctg ttg ggc aac ttt ctc 148
 Leu Ile Phe Ser Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu
 30 35 40

 atc atc ctc act gtg acc tca gat tcc cgc ctt cac acc ccc atg tac 196
 Ile Ile Leu Thr Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr
 45 50 55 60

 ttt ctg ctt gcc aac ctg tca ttt ata gac gta tgt gtt gcc tct tct 244
 Phe Leu Leu Ala Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Ser
 65 70 75

 gct acc cct aaa atg att gca gac ttt ctg gtt gag cac aag act att 292
 Ala Thr Pro Lys Met Ile Ala Asp Phe Leu Val Glu His Lys Thr Ile
 80 85 90

 tct ttt gat gcc cgc ctg gcc cag att ttc ttt gtt cat ctc ttc act 340
 Ser Phe Asp Ala Arg Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr
 95 100 105

 ggc agt gaa atg gtg ctc cta gtt tcc atg gcc tat gac cgt tat gtt 388
 Gly Ser Glu Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val
 110 115 120

 gct ata tgc aaa cct ccc cac tac atg aca atc atg agc tgc tgt gta 436
 Ala Ile Cys Lys Pro Pro His Tyr Met Thr Ile Met Ser Cys Cys Val
 125 130 135 140

 tgt gtt gtg ctc ttc ctc att tcc tgg ttt gtg ggc ttc atc cat acc 484

Cys Val Val Leu Phe Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr	
145 150 155	
acc agc cag ttg gca ttc act gtt aat ctg cca ttt tgt ggt cct aat	532
Thr Ser Gln Leu Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn	
160 165 170	
aag gta gat agt ttt ttc tgt gac ctt cct cta gtg acc aag tta gcc	580
Lys Val Asp Ser Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala	
175 180 185	
tgc ata gac act tat gtt gtc agc cta cta ata gtt gca gat agt ggc	628
Cys Ile Asp Thr Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly	
190 195 200	
ttt ctt tct ctg agt tcc ttt ctc ctc ttg gtt gtc tcc tac act gta	676
Phe Leu Ser Leu Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val	
205 210 215 220	
ata ctt gtt aca gtt agg aat agc tcc tct gta agc atg gtg aag gcc	724
Ile Leu Val Thr Val Arg Asn Ser Ser Ser Val Ser Met Val Lys Ala	
225 230 235	
tgc tcc aca ttg act gct cac atc act gtg gtc act tta ttc ttt gga	772
Cys Ser Thr Leu Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly	
240 245 250	
ccg tgt att ttc atc tat gtg tgg ccc ttc agc agt tac tca gtt gac	820
Pro Cys Ile Phe Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp	
255 260 265	
aaa gtc ctt gct gta ttc tac acc atc ttc acg tct att tta aac cct	868
Lys Val Leu Ala Val Phe Tyr Thr Ile Phe Thr Ser Ile Leu Asn Pro	
270 275 280	
gta atc tac atg cta aga aac aaa gaa gtg aag gca gct atg tca aaa	916
Val Ile Tyr Met Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys	
285 290 295 300	
ctg aag agt cgg tat cag aag ctt ggt cag gtt tct gta gtc ata aga	964
Leu Lys Ser Arg Tyr Gln Lys Leu Gly Gln Val Ser Val Val Ile Arg	
305 310 315	
aac gtt ctt ttc cta gaa aca aag taaacttatg agact	1003
Asn Val Leu Phe Leu Glu Thr Lys	
320	

<210> 64

<211> 324

<212> PRT

<213> Homo sapiens

<400> 64

Met Asn Glu Thr Asn His Ser Trp Val Thr Glu Phe Val Leu Leu Gly
1 5 10 15

Leu Ser Ser Ser Arg Glu Leu Gln Pro Phe Leu Phe Leu Ile Phe Ser
 20 25 30
 Leu Leu Tyr Leu Ala Ile Leu Leu Gly Asn Phe Leu Ile Ile Leu Thr
 35 40 45
 Val Thr Ser Asp Ser Arg Leu His Thr Pro Met Tyr Phe Leu Leu Ala
 50 55 60
 Asn Leu Ser Phe Ile Asp Val Cys Val Ala Ser Ser Ala Thr Pro Lys
 65 70 75 80
 Met Ile Ala Asp Phe Leu Val Glu His Lys Thr Ile Ser Phe Asp Ala
 85 90 95
 Arg Leu Ala Gln Ile Phe Phe Val His Leu Phe Thr Gly Ser Glu Met
 100 105 110
 Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Lys
 115 120 125
 Pro Pro His Tyr Met Thr Ile Met Ser Cys Cys Val Cys Val Val Leu
 130 135 140
 Phe Leu Ile Ser Trp Phe Val Gly Phe Ile His Thr Thr Ser Gln Leu
 145 150 155 160
 Ala Phe Thr Val Asn Leu Pro Phe Cys Gly Pro Asn Lys Val Asp Ser
 165 170 175
 Phe Phe Cys Asp Leu Pro Leu Val Thr Lys Leu Ala Cys Ile Asp Thr
 180 185 190
 Tyr Val Val Ser Leu Leu Ile Val Ala Asp Ser Gly Phe Leu Ser Leu
 195 200 205
 Ser Ser Phe Leu Leu Leu Val Val Ser Tyr Thr Val Ile Leu Val Thr
 210 215 220
 Val Arg Asn Ser Ser Ser Val Ser Met Val Lys Ala Cys Ser Thr Leu
 225 230 235 240
 Thr Ala His Ile Thr Val Val Thr Leu Phe Phe Gly Pro Cys Ile Phe
 245 250 255
 Ile Tyr Val Trp Pro Phe Ser Ser Tyr Ser Val Asp Lys Val Leu Ala
 260 265 270
 Val Phe Tyr Thr Ile Phe Thr Ser Ile Leu Asn Pro Val Ile Tyr Met
 275 280 285
 Leu Arg Asn Lys Glu Val Lys Ala Ala Met Ser Lys Leu Lys Ser Arg
 290 295 300
 Tyr Gln Lys Leu Gly Gln Val Ser Val Val Ile Arg Asn Val Leu Phe
 305 310 315 320

Leu Glu Thr Lys

<210> 65
<211> 972
<212> DNA
<213> Homo sapiens

<220>
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<222> (13)..(948)

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Met Asp Gly Glu Asn His Ser Val Val Ser Glu Phe Leu
1 5 10

ttt ctg gga ctc act cat tca tgg gag atc cag ctc ctc ctc cta gtg 99
Phe Leu Gly Leu Thr His Ser Trp Glu Ile Gln Leu Leu Leu Leu Val
15 20 25

ttt tcc tct gtg ctc tat gtg gca agc att act gga aac atc ctc att 147
Phe Ser Ser Val Leu Tyr Val Ala Ser Ile Thr Gly Asn Ile Leu Ile
30 35 40 45

gtg ttt tct gtg acc act gac cct cac tta cac tcc ccc atg tac ttt 195
Val Phe Ser Val Thr Thr Asp Pro His Leu His Ser Ser Pro Met Tyr Phe
50 55 60

cta ctg gcc agt ctc tcc ttc att gac tta gga gcc tgc tct gtc act 243
Leu Leu Ala Ser Leu Ser Phe Ile Asp Leu Gly Ala Cys Ser Val Thr
65 70 75

tct ccc aag atg att tat gac ctg ttc aga aag cgc aaa gtc atc tcc 291
Ser Pro Lys Met Ile Tyr Asp Leu Phe Arg Lys Arg Lys Val Ile Ser
80 85 90

ttt gga ggc tgc atc gct caa atc ttc ttc atc cac gtc att ggt ggt 339
Phe Gly Gly Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly
95 100 105

gtg gag atg gtg ctg ctc ata gcc atg gcc ttt gac aga tat gtg gcc 387
Val Glu Met Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala
110 115 120 125

cta tgt aag ccc ctc cac tat ctg acc att atg agc cca aga atg tgc 435
Leu Cys Lys Pro Leu His Tyr Leu Thr Ile Met Ser Pro Arg Met Cys
130 135 140

ctt tca ttt ctg gct gtt gcc tgg acc ctt ggt gtc agt cac tcc ctg 483
Leu Ser Phe Leu Ala Val Ala Trp Thr Leu Gly Val Ser His Ser Leu
145 150 155

ttc caa ctg gca ttt ctt gtt aat tta gcc ttc tgt ggc cct aat gtg 531
Phe Gln Leu Ala Phe Leu Val Asn Leu Ala Phe Cys Gly Pro Asn Val

160	165	170	
ttg gac agc ttc tac tgt	gac ctt cct cgg ctt ctc	aga cta gcc tgt	579
Leu Asp Ser Phe Tyr Cys	Asp Leu Pro Arg Leu Leu Arg	Leu Ala Cys	
175	180	185	
acc gac acc tac aga ttg	cag ttc atg gtc act gtt aac agt ggg ttt		627
Thr Asp Thr Tyr Arg Leu	Gln Phe Met Val Thr Val Asn Ser Gly Phe		
190	195	200	205
atc tgt gtg ggt act ttc ttc	ata ctt cta atc tcc tac gtc ttc atc		675
Ile Cys Val Gly Thr Phe Phe	Ile Leu Leu Ile Ser Tyr Val Phe Ile		
	210	215	220
ctg ttt act gtt tgg aaa cat	tcc tca ggt ggt tca tcc aag gcc ctt		723
Leu Phe Thr Val Trp Lys His	Ser Ser Gly Gly Ser Ser Lys Ala Leu		
	225	230	235
tcc act ctt tca gct cac agc	aca gtg gtc ctt ttg ttc ttt ggt cca		771
Ser Thr Leu Ser Ala His Ser	Thr Val Val Leu Leu Phe Phe Gly Pro		
	240	245	250
ccc atg ttt gtg tat aca cgg	cca cac cct aat tca cag atg gac aag		819
Pro Met Phe Val Tyr Thr Arg	Pro His Pro Asn Ser Gln Met Asp Lys		
	255	260	265
ttt ctg gct att ttt gat gca	gtt ctc act cct ttt ctg aat cca gtt		867
Phe Leu Ala Ile Phe Asp Ala	Val Leu Thr Pro Phe Leu Asn Pro Val		
	270	275	280
gtc tat aca ttc agg aat aag	gag atg aag gca gca ata aag aga gta		915
Val Tyr Thr Phe Arg Asn Lys	Glu Met Lys Ala Ala Ile Lys Arg Val		
	290	295	300
tgc aaa cag cta gtg att tac	aag agg atc tca taaatgatataataagccct		968
Cys Lys Gln Leu Val Ile Tyr	Lys Arg Ile Ser		
	305	310	
tctc			972

<210> 66
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Asp Gly Glu Asn His Ser Val Val Ser Glu Phe Leu Phe Leu Gly
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 Leu Thr His Ser Trp Glu Ile Gln Leu Leu Leu Val Phe Ser Ser
 20 25 30
 Val Leu Tyr Val Ala Ser Ile Thr Gly Asn Ile Leu Ile Val Phe Ser
 35 40 45
 Val Thr Thr Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala

50	55	60
Ser Leu Ser Phe Ile Asp Leu Gly Ala Cys Ser Val Thr Ser Pro Lys		
65	70	75 80
Met Ile Tyr Asp Leu Phe Arg Lys Arg Lys Val Ile Ser Phe Gly Gly		
	85	90 95
Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met		
	100	105 110
Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Leu Cys Lys		
	115	120 125
Pro Leu His Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Ser Phe		
	130	135 140
Leu Ala Val Ala Trp Thr Leu Gly Val Ser His Ser Leu Phe Gln Leu		
	145	150 155 160
Ala Phe Leu Val Asn Leu Ala Phe Cys Gly Pro Asn Val Leu Asp Ser		
	165	170 175
Phe Tyr Cys Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asp Thr		
	180	185 190
Tyr Arg Leu Gln Phe Met Val Thr Val Asn Ser Gly Phe Ile Cys Val		
	195	200 205
Gly Thr Phe Phe Ile Leu Leu Ile Ser Tyr Val Phe Ile Leu Phe Thr		
	210	215 220
Val Trp Lys His Ser Ser Gly Gly Ser Ser Lys Ala Leu Ser Thr Leu		
	225	230 235 240
Ser Ala His Ser Thr Val Val Leu Leu Phe Phe Gly Pro Pro Met Phe		
	245	250 255
Val Tyr Thr Arg Pro His Pro Asn Ser Gln Met Asp Lys Phe Leu Ala		
	260	265 270
Ile Phe Asp Ala Val Leu Thr Pro Phe Leu Asn Pro Val Val Tyr Thr		
	275	280 285
Phe Arg Asn Lys Glu Met Lys Ala Ala Ile Lys Arg Val Cys Lys Gln		
	290	295 300
Leu Val Ile Tyr Lys Arg Ile Ser		
305	310	

<210> 67
 <211> 945
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3)..(935)

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<400> 67
at cct atg gaa cca cag aac acc aca cag gta tca atg ttt gtc ctc 47
  Pro Met Glu Pro Gln Asn Thr Thr Gln Val Ser Met Phe Val Leu
    1             5             10             15

tta ggg ttt tca cag acc caa gag ctc cag aaa ttc ctg ttc ctt ctg 95
Leu Gly Phe Ser Gln Thr Gln Glu Leu Gln Lys Phe Leu Phe Leu Leu
              20             25             30

ttc ctg tta gtc tat gtt acc acc att gtg gga aac ctc ctt atc atg 143
Phe Leu Leu Val Tyr Val Thr Thr Ile Val Gly Asn Leu Leu Ile Met
              35             40             45

gtc aca gtg act ttt gac tgc cgg ctc cac aca ccc atg tat ttt ctg 191
Val Thr Val Thr Phe Asp Cys Arg Leu His Thr Pro Met Tyr Phe Leu
              50             55             60

ctc cga aat cta gct ctc ata gac ctc tgc tat tcc aca gtc acc tct 239
Leu Arg Asn Leu Ala Leu Ile Asp Leu Cys Tyr Ser Thr Val Thr Ser
              65             70             75

cca aag atg ctg gtg gac ttc ctc cat gag acc aag acg atc tcc tac 287
Pro Lys Met Leu Val Asp Phe Leu His Glu Thr Lys Thr Ile Ser Tyr
              80             85             90             95

cag ggc tgc atg gcc cag atc ttc ttc ttc cac ctt ttg gga ggt ggg 335
Gln Gly Cys Met Ala Gln Ile Phe Phe Phe His Leu Leu Gly Gly Gly
              100             105             110

act gtc ttt ttt ctc tca gtc atg gcc tat gac cgc tac ata gcc atc 383
Thr Val Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile
              115             120             125

tcc cag ccc ctc cgg tat gtc acc atc atg aac act caa ttg tgt gtg 431
Ser Gln Pro Leu Arg Tyr Val Thr Ile Met Asn Thr Gln Leu Cys Val
              130             135             140

ggc ctg gta gta gcc gcc tgg gtg ggg ggc ttt gtc cac tcc att gtc 479
Gly Leu Val Val Ala Ala Trp Val Gly Gly Phe Val His Ser Ile Val
              145             150             155

caa ctg gct ctg ata ctt cca ctg ccc ttc tgt ggc ccc aat atc cta 527
Gln Leu Ala Leu Ile Leu Pro Leu Pro Phe Cys Gly Pro Asn Ile Leu
              160             165             170             175

gat aac ttc tac tgt gat gtt ccc caa gta ctg aga ctt gcc tgc act 575
Asp Asn Phe Tyr Cys Asp Val Pro Gln Val Leu Arg Leu Ala Cys Thr
              180             185             190

gat acc tcc ctc ctg gag ttc ctc atg atc tcc aac agt ggg ctg cta 623
Asp Thr Ser Leu Leu Glu Phe Leu Met Ile Ser Asn Ser Gly Leu Leu
              195             200             205

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gtt atc atc tgg ttc ctc ctc ctt ctg atc tct tat act gtc atc ctg	671
Val Ile Ile Trp Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu	
210 215 220	
gtg atg ctg agg tcc cac tcg gga aag gca agg agg aag gca gct tcc	719
Val Met Leu Arg Ser His Ser Gly Lys Ala Arg Arg Lys Ala Ala Ser	
225 230 235	
acc tgc acc acc cac atc atc gtg gtg tcc atg atc ttc att ccc tgt	767
Thr Cys Thr Thr His Ile Ile Val Val Ser Met Ile Phe Ile Pro Cys	
240 245 250 255	
atc tat atc tat acc tgg ccc ttc acc cca ttc ctc atg gac aag gct	815
Ile Tyr Ile Tyr Thr Trp Pro Phe Thr Pro Phe Leu Met Asp Lys Ala	
260 265 270	
gtg tcc atc agc tac aca gtc atg acc ccc atg ctc aac ccc atg atc	863
Val Ser Ile Ser Tyr Thr Val Met Thr Pro Met Leu Asn Pro Met Ile	
275 280 285	
tac acc ctg aga aac cag gac atg aaa gca gcc atg agg aga tta ggc	911
Tyr Thr Leu Arg Asn Gln Asp Met Lys Ala Ala Met Arg Arg Leu Gly	
290 295 300	
aag tgc cta gta att tgc agg gag taaactttaa	945
Lys Cys Leu Val Ile Cys Arg Glu	
305 310	

<210> 68
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 68	
Pro Met Glu Pro Gln Asn Thr Thr Gln Val Ser Met Phe Val Leu Leu	
1 5 10 15	
Gly Phe Ser Gln Thr Gln Glu Leu Gln Lys Phe Leu Phe Leu Leu Phe	
20 25 30	
Leu Leu Val Tyr Val Thr Thr Ile Val Gly Asn Leu Leu Ile Met Val	
35 40 45	
Thr Val Thr Phe Asp Cys Arg Leu His Thr Pro Met Tyr Phe Leu Leu	
50 55 60	
Arg Asn Leu Ala Leu Ile Asp Leu Cys Tyr Ser Thr Val Thr Ser Pro	
65 70 75 80	
Lys Met Leu Val Asp Phe Leu His Glu Thr Lys Thr Ile Ser Tyr Gln	
85 90 95	
Gly Cys Met Ala Gln Ile Phe Phe Phe His Leu Leu Gly Gly Gly Thr	
100 105 110	
Val Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser	

115					120					125					
Gln	Pro	Leu	Arg	Tyr	Val	Thr	Ile	Met	Asn	Thr	Gln	Leu	Cys	Val	Gly
130					135					140					
Leu	Val	Val	Ala	Ala	Trp	Val	Gly	Gly	Phe	Val	His	Ser	Ile	Val	Gln
145					150					155					160
Leu	Ala	Leu	Ile	Leu	Pro	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Ile	Leu	Asp
165					170					175					
Asn	Phe	Tyr	Cys	Asp	Val	Pro	Gln	Val	Leu	Arg	Leu	Ala	Cys	Thr	Asp
180					185					190					
Thr	Ser	Leu	Leu	Glu	Phe	Leu	Met	Ile	Ser	Asn	Ser	Gly	Leu	Leu	Val
195					200					205					
Ile	Ile	Trp	Phe	Leu	Leu	Leu	Leu	Ile	Ser	Tyr	Thr	Val	Ile	Leu	Val
210					215					220					
Met	Leu	Arg	Ser	His	Ser	Gly	Lys	Ala	Arg	Arg	Lys	Ala	Ala	Ser	Thr
225					230					235					240
Cys	Thr	Thr	His	Ile	Ile	Val	Val	Ser	Met	Ile	Phe	Ile	Pro	Cys	Ile
245					250					255					
Tyr	Ile	Tyr	Thr	Trp	Pro	Phe	Thr	Pro	Phe	Leu	Met	Asp	Lys	Ala	Val
260					265					270					
Ser	Ile	Ser	Tyr	Thr	Val	Met	Thr	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr
275					280					285					
Thr	Leu	Arg	Asn	Gln	Asp	Met	Lys	Ala	Ala	Met	Arg	Arg	Leu	Gly	Lys
290					295					300					
Cys	Leu	Val	Ile	Cys	Arg	Glu									
305					310										

<210> 69
 <211> 948
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(933)

<400> 69																
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Trp	Glu	Asn	His	Thr	Thr	Leu	Pro	Glu	Phe	Leu	Leu	Leu	Gly	Phe	Ser	
1				5				10					15			
gac ctt aag gcc ctg cag gac ccc ctg ttc tgg gtg gtg ctt ctg gtc															96	
Asp	Leu	Lys	Ala	Leu	Gln	Asp	Pro	Leu	Phe	Trp	Val	Val	Leu	Leu	Val	
			20					25					30			

tac ctg gtc acc ttg ctg ggt aac tcc ctg atc atc ctc ctc aca cag	144
Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu Thr Gln	
35 40 45	
gtc agc cct gcc ctg cac tcc ccc atg tac ttc ttc ctg cgc caa ctc	192
Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg Gln Leu	
50 55 60	
tca gtg gtg gag ctc ttc tac acc act gac atc gtg ccc agg acc ctg	240
Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg Thr Leu	
65 70 75 80	
gcc aat ctg ggc tcc ccg cat ccc cag gcc atc tct ttc cag ggc tgt	288
Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln Gly Cys	
85 90 95	
gca gcc cag atg tac gtc ttc att gtc ctg ggc atc tcg gag tgc tgc	336
Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu Cys Cys	
100 105 110	
ctg ctc acg gcc atg gcc tat gac cga tat gtt gcc atc tgc cag ccc	384
Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Gln Pro	
115 120 125	
cta cgc tat tcc acc ctc ttg agc cca cgg gcc tgc atg gcc atg gtg	432
Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Met Ala Met Val	
130 135 140	
ggt acc tcc tgg ctc aca ggc atc atc acg gcc acc acc cat gcc tcc	480
Gly Thr Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His Ala Ser	
145 150 155 160	
ctc atc ttc tct cta cct ttt cgc agc cac ccg atc atc ccg cac ttt	528
Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro His Phe	
165 170 175	
ctc tgt gac atc ctg cca gta ctg agg ctg gca agt gct ggg aag cac	576
Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly Lys His	
180 185 190	
agg agc gag atc tcc gtg atg aca gcc acc ata gtc ttc att atg atc	624
Arg Ser Glu Ile Ser Val Met Thr Ala Thr Ile Val Phe Ile Met Ile	
195 200 205	
ccc ttc tct ctg att gtc acc tct cac atc cgc atc ctg ggt gcc atc	672
Pro Phe Ser Leu Ile Val Thr Ser His Ile Arg Ile Leu Gly Ala Ile	
210 215 220	
cta gca atg gcc tcc acc cag agc cgc cgc aag gtc ttc tcc acc tgc	720
Leu Ala Met Ala Ser Thr Gln Ser Arg Arg Lys Val Phe Ser Thr Cys	
225 230 235 240	
tcc tcc cat ctg ctc gtg gtc tct ctc ttc ttt gga gca gcc agc atc	768
Ser Ser His Leu Leu Val Val Ser Leu Phe Phe Gly Ala Ala Ser Ile	
245 250 255	

acc tac atc cgg ccg cag gca ggc tcc tct gtt acc aca gac cgc gtc 816
 Thr Tyr Ile Arg Pro Gln Ala Gly Ser Ser Val Thr Thr Asp Arg Val
 260 265 270

ctc agt ctc ttc tac aca gtc atc aca ccc atg ctc aac ccc atc atc 864
 Leu Ser Leu Phe Tyr Thr Val Ile Thr Pro Met Leu Asn Pro Ile Ile
 275 280 285

tac acc ctt cgg aac aag gac gtg agg agg gcc ctg cga cac ttg gtg 912
 Tyr Thr Leu Arg Asn Lys Asp Val Arg Arg Ala Leu Arg His Leu Val
 290 295 300

aag agg cag cgc ccc tca ccc tgaagggact cggat 948
 Lys Arg Gln Arg Pro Ser Pro
 305 310

<210> 70
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 70
 Trp Glu Asn His Thr Thr Leu Pro Glu Phe Leu Leu Leu Gly Phe Ser
 1 5 10 15

Asp Leu Lys Ala Leu Gln Asp Pro Leu Phe Trp Val Val Leu Leu Val
 20 25 30

Tyr Leu Val Thr Leu Leu Gly Asn Ser Leu Ile Ile Leu Leu Thr Gln
 35 40 45

Val Ser Pro Ala Leu His Ser Pro Met Tyr Phe Phe Leu Arg Gln Leu
 50 55 60

Ser Val Val Glu Leu Phe Tyr Thr Thr Asp Ile Val Pro Arg Thr Leu
 65 70 75 80

Ala Asn Leu Gly Ser Pro His Pro Gln Ala Ile Ser Phe Gln Gly Cys
 85 90 95

Ala Ala Gln Met Tyr Val Phe Ile Val Leu Gly Ile Ser Glu Cys Cys
 100 105 110

Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys Gln Pro
 115 120 125

Leu Arg Tyr Ser Thr Leu Leu Ser Pro Arg Ala Cys Met Ala Met Val
 130 135 140

Gly Thr Ser Trp Leu Thr Gly Ile Ile Thr Ala Thr Thr His Ala Ser
 145 150 155 160

Leu Ile Phe Ser Leu Pro Phe Arg Ser His Pro Ile Ile Pro His Phe
 165 170 175

Leu Cys Asp Ile Leu Pro Val Leu Arg Leu Ala Ser Ala Gly Lys His

180							185					190				
Arg	Ser	Glu	Ile	Ser	Val	Met	Thr	Ala	Thr	Ile	Val	Phe	Ile	Met	Ile	
		195					200					205				
Pro	Phe	Ser	Leu	Ile	Val	Thr	Ser	His	Ile	Arg	Ile	Leu	Gly	Ala	Ile	
	210					215					220					
Leu	Ala	Met	Ala	Ser	Thr	Gln	Ser	Arg	Arg	Lys	Val	Phe	Ser	Thr	Cys	
225					230					235					240	
Ser	Ser	His	Leu	Leu	Val	Val	Ser	Leu	Phe	Phe	Gly	Ala	Ala	Ser	Ile	
			245						250					255		
Thr	Tyr	Ile	Arg	Pro	Gln	Ala	Gly	Ser	Ser	Val	Thr	Thr	Asp	Arg	Val	
			260					265					270			
Leu	Ser	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Met	Leu	Asn	Pro	Ile	Ile	
	275						280					285				
Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Val	Arg	Arg	Ala	Leu	Arg	His	Leu	Val	
	290					295					300					
Lys	Arg	Gln	Arg	Pro	Ser	Pro										
305					310											

<210> 71
 <211> 877
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(876)

<400> 71																
ggc	ttt	ggg	act	aac	atc	tca	agt	act	acc	agc	ttc	act	cta	aca	ggc	48
Gly	Phe	Gly	Thr	Asn	Ile	Ser	Ser	Thr	Thr	Ser	Phe	Thr	Leu	Thr	Gly	
1				5					10				15			
ttc cct gag atg aag ggt ctg gag cac tgg ctg gct gcc ctt ctg ctg															96	
Phe	Pro	Glu	Met	Lys	Gly	Leu	Glu	His	Trp	Leu	Ala	Ala	Leu	Leu	Leu	
			20					25					30			
ctg ctt tat gct att tcc ttc ctg ggc aac atc ctc atc ctc ttt atc															144	
Leu	Leu	Tyr	Ala	Ile	Ser	Phe	Leu	Gly	Asn	Ile	Leu	Ile	Leu	Phe	Ile	
		35				40					45					
ata aag gaa gag cag agc ttg cac cag cca atg tac tac ttc ctg tct															192	
Ile	Lys	Glu	Glu	Gln	Ser	Leu	His	Gln	Pro	Met	Tyr	Tyr	Phe	Leu	Ser	
	50					55					60					
ctt ttt tct gtt aat gac ctg ggt gtg tcc ttt tct aca ttg ccc act															240	
Leu	Phe	Ser	Val	Asn	Asp	Leu	Gly	Val	Ser	Phe	Ser	Thr	Leu	Pro	Thr	
65				70				75							80	

gta	ctg	gct	gct	gtg	tgt	ttt	cat	gcc	cca	gag	aca	act	ttt	gat	gcc	288
Val	Leu	Ala	Ala	Val	Cys	Phe	His	Ala	Pro	Glu	Thr	Thr	Phe	Asp	Ala	
				85					90					95		
tgc	ctg	gcc	cag	atg	ttc	ttc	atc	cac	ttt	tcc	tcc	tggt	aca	gag	ttt	336
Cys	Leu	Ala	Gln	Met	Phe	Phe	Ile	His	Phe	Ser	Ser	Trp	Thr	Glu	Phe	
			100					105					110			
ggc	atc	cta	ctg	gcc	atg	agt	ttt	gac	cac	tat	gtg	gcc	atc	tgt	aac	384
Gly	Ile	Leu	Leu	Ala	Met	Ser	Phe	Asp	His	Tyr	Val	Ala	Ile	Cys	Asn	
		115					120					125				
ccg	ctg	cgc	tat	gcc	aca	gtg	ctc	act	gat	gtc	cgt	gtg	gcc	cac	aat	432
Pro	Leu	Arg	Tyr	Ala	Thr	Val	Leu	Thr	Asp	Val	Arg	Val	Ala	His	Asn	
	130					135					140					
ggc	ata	tcc	att	gtc	atc	cgc	agc	ttc	tgc	atg	gta	ttc	cca	ctt	ccc	480
Gly	Ile	Ser	Ile	Val	Ile	Arg	Ser	Phe	Cys	Met	Val	Phe	Pro	Leu	Pro	
145				150					155						160	
ttc	ctc	ctg	aag	aga	ctg	tct	ttc	tgt	aag	gcc	agt	gtg	gta	ctg	gcc	528
Phe	Leu	Leu	Lys	Arg	Leu	Ser	Phe	Cys	Lys	Ala	Ser	Val	Val	Leu	Ala	
			165					170						175		
cat	tcc	tac	tgt	ctg	cat	gca	gac	ctg	att	cgg	ctg	ccc	tggt	gga	gac	576
His	Ser	Tyr	Cys	Leu	His	Ala	Asp	Leu	Ile	Arg	Leu	Pro	Trp	Gly	Asp	
			180					185					190			
act	acc	atc	aac	agc	atg	tat	ggc	ctg	ttc	att	gtc	atc	tct	gcc	ttt	624
Thr	Thr	Ile	Asn	Ser	Met	Tyr	Gly	Leu	Phe	Ile	Val	Ile	Ser	Ala	Phe	
		195					200					205				
ggt	gta	gat	tca	ctg	ctc	atc	ctc	ctc	tcc	tat	gtg	ctc	att	ctg	cgt	672
Gly	Val	Asp	Ser	Leu	Leu	Ile	Leu	Leu	Ser	Tyr	Val	Leu	Ile	Leu	Arg	
	210					215					220					
tct	gtg	ctg	gcc	att	gcc	tcc	agg	ggt	gag	agg	ctt	aag	aca	ctc	aac	720
Ser	Val	Leu	Ala	Ile	Ala	Ser	Arg	Gly	Glu	Arg	Leu	Lys	Thr	Leu	Asn	
225					230				235						240	
aca	tgt	gtg	tca	cat	atc	tat	gca	gtg	ctg	atc	ttc	tat	gtg	cct	atg	768
Thr	Cys	Val	Ser	His	Ile	Tyr	Ala	Val	Leu	Ile	Phe	Tyr	Val	Pro	Met	
				245				250						255		
gtt	ggt	gtg	tcc	atg	gtt	cat	cga	ttt	ggg	agg	cat	gct	cct	gaa	tat	816
Val	Gly	Val	Ser	Met	Val	His	Arg	Phe	Gly	Arg	His	Ala	Pro	Glu	Tyr	
			260					265					270			
gtg	cac	aag	ttc	atg	tct	ctt	tgt	acc	tcc	aat	gct	cta	ccc	aat	tat	864
Val	His	Lys	Phe	Met	Ser	Leu	Cys	Thr	Ser	Asn	Ala	Leu	Pro	Asn	Tyr	
		275					280					285				
cta	ttc	cat	caa	g												877
Leu	Phe	His	Gln													
			290													

<210> 72
 <211> 292
 <212> PRT
 <213> Homo sapiens

<400> 72

Gly Phe Gly Thr Asn Ile Ser Ser Thr Thr Ser Phe Thr Leu Thr Gly
 1 5 10 15
 Phe Pro Glu Met Lys Gly Leu Glu His Trp Leu Ala Ala Leu Leu Leu
 20 25 30
 Leu Leu Tyr Ala Ile Ser Phe Leu Gly Asn Ile Leu Ile Leu Phe Ile
 35 40 45
 Ile Lys Glu Glu Gln Ser Leu His Gln Pro Met Tyr Tyr Phe Leu Ser
 50 55 60
 Leu Phe Ser Val Asn Asp Leu Gly Val Ser Phe Ser Thr Leu Pro Thr
 65 70 75 80
 Val Leu Ala Ala Val Cys Phe His Ala Pro Glu Thr Thr Phe Asp Ala
 85 90 95
 Cys Leu Ala Gln Met Phe Phe Ile His Phe Ser Ser Trp Thr Glu Phe
 100 105 110
 Gly Ile Leu Leu Ala Met Ser Phe Asp His Tyr Val Ala Ile Cys Asn
 115 120 125
 Pro Leu Arg Tyr Ala Thr Val Leu Thr Asp Val Arg Val Ala His Asn
 130 135 140
 Gly Ile Ser Ile Val Ile Arg Ser Phe Cys Met Val Phe Pro Leu Pro
 145 150 155 160
 Phe Leu Leu Lys Arg Leu Ser Phe Cys Lys Ala Ser Val Val Leu Ala
 165 170 175
 His Ser Tyr Cys Leu His Ala Asp Leu Ile Arg Leu Pro Trp Gly Asp
 180 185 190
 Thr Thr Ile Asn Ser Met Tyr Gly Leu Phe Ile Val Ile Ser Ala Phe
 195 200 205
 Gly Val Asp Ser Leu Leu Ile Leu Leu Ser Tyr Val Leu Ile Leu Arg
 210 215 220
 Ser Val Leu Ala Ile Ala Ser Arg Gly Glu Arg Leu Lys Thr Leu Asn
 225 230 235 240
 Thr Cys Val Ser His Ile Tyr Ala Val Leu Ile Phe Tyr Val Pro Met
 245 250 255
 Val Gly Val Ser Met Val His Arg Phe Gly Arg His Ala Pro Glu Tyr
 260 265 270

Val His Lys Phe Met Ser Leu Cys Thr Ser Asn Ala Leu Pro Asn Tyr
 275 280 285

Leu Phe His Gln
 290

<210> 73
 <211> 939
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (4) .. (936)

<400> 73
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 Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu
 1 5 10 15
 ctg gga ttc tca gat ttt ccc agg atc ata aaa gtg ctc ttc act ata 96
 Leu Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile
 20 25 30
 ttc ctg gtg atc tac att aca tct ctg gcc tgg aac ctc tcc ctc att 144
 Phe Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile
 35 40 45
 gtt tta ata agg atg gat tcc cac ctc cat aca ccc atg tat ttc ttc 192
 Val Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe
 50 55 60
 ctc agt aac ctg tcc ttc ata gat gtc tgc tat atc agc tcc aca gtc 240
 Leu Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val
 65 70 75
 ccc aag atg ctc tcc aac ctc tta cag gaa cag caa act atc act ttt 288
 Pro Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Gln Thr Ile Thr Phe
 80 85 90 95
 gtt ggt tgt att att cag tac ttt atc ttt tca acg atg gga ctg agt 336
 Val Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser
 100 105 110
 gag tct tgt ctc atg aca gcc atg gct tat gat cgt tat gct gcc att 384
 Glu Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile
 115 120 125
 tgt aac ccc ctg ctc tat tca tcc atc atg tca ccc acc ctc tgt gtt 432
 Cys Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val
 130 135 140
 tgg atg gta ctg gga gcc tac atg act ggc ctc act gct tct tta ttc 480
 Trp Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe

145	150	155	
caa att ggt gct ttg ctt	caa ctc cac ttc	tgt ggg tct aat gtc atc	528
Gln Ile Gly Ala Leu Leu	Gln Leu His Phe Cys	Gly Ser Asn Val Ile	
160	165	170 175	
aga cat ttc ttc tgt gac atg	ccc caa ctg tta atc	ttg tcc tgt act	576
Arg His Phe Phe Cys Asp	Met Pro Gln Leu Leu	Ile Leu Ser Cys Thr	
	180	185 190	
gac act ttc ttt gta cag gtc atg	act gct ata tta acc atg	ttc ttt	624
Asp Thr Phe Phe Val Gln Val	Met Thr Ala Ile Leu Thr	Met Phe Phe	
	195	200 205	
ggg ata gta agt gcc cta gtt atc atg	ata tcc tat ggc tat att ggc		672
Gly Ile Val Ser Ala Leu Val Ile Met	Ile Ser Tyr Gly Tyr Ile Gly		
	210	215 220	
atc tcc atc atg aag atc act tca gct	aaa ggc agg tcc aag gca ttc		720
Ile Ser Ile Met Lys Ile Thr Ser Ala	Lys Gly Arg Ser Lys Ala Phe		
	225	230 235	
aac acc tgt gct tct cat cta aca gct	gtt tcc ctc ttc tat aca tca		768
Asn Thr Cys Ala Ser His Leu Thr Ala	Val Ser Leu Phe Tyr Thr Ser		
	240	245 250 255	
gga atc ttt gtc tat ttg agt tcc agc	tct gga ggt tct tca agc ttt		816
Gly Ile Phe Val Tyr Leu Ser Ser Ser	Gly Gly Ser Ser Ser Phe		
	260	265 270	
gac aga ttt gca tct gtt ttc tac act	gtg gtc att ccc atg tta aat		864
Asp Arg Phe Ala Ser Val Phe Tyr Thr	Val Val Ile Pro Met Leu Asn		
	275	280 285	
ccc ttc att tac agt ttg agg aac aaa	gaa att aaa gat gcc tta aag		912
Pro Phe Ile Tyr Ser Leu Arg Asn Lys	Glu Ile Lys Asp Ala Leu Lys		
	290	295 300	
agg ttg caa aag aga aag tgc tgc tga			939
Arg Leu Gln Lys Arg Lys Cys Cys			
	305	310	

<210> 74

<211> 311

<212> PRT

<213> Homo sapiens

<400> 74

Met Thr Gly Gly Gly Asn Ile Thr Glu Ile Thr Tyr Phe Ile Leu Leu
1 5 10 15

Gly Phe Ser Asp Phe Pro Arg Ile Ile Lys Val Leu Phe Thr Ile Phe
20 25 30

Leu Val Ile Tyr Ile Thr Ser Leu Ala Trp Asn Leu Ser Leu Ile Val
35 40 45

Leu Ile Arg Met Asp Ser His Leu His Thr Pro Met Tyr Phe Phe Leu
 50 55 60
 Ser Asn Leu Ser Phe Ile Asp Val Cys Tyr Ile Ser Ser Thr Val Pro
 65 70 75 80
 Lys Met Leu Ser Asn Leu Leu Gln Glu Gln Thr Ile Thr Phe Val
 85 90 95
 Gly Cys Ile Ile Gln Tyr Phe Ile Phe Ser Thr Met Gly Leu Ser Glu
 100 105 110
 Ser Cys Leu Met Thr Ala Met Ala Tyr Asp Arg Tyr Ala Ala Ile Cys
 115 120 125
 Asn Pro Leu Leu Tyr Ser Ser Ile Met Ser Pro Thr Leu Cys Val Trp
 130 135 140
 Met Val Leu Gly Ala Tyr Met Thr Gly Leu Thr Ala Ser Leu Phe Gln
 145 150 155 160
 Ile Gly Ala Leu Leu Gln Leu His Phe Cys Gly Ser Asn Val Ile Arg
 165 170 175
 His Phe Phe Cys Asp Met Pro Gln Leu Leu Ile Leu Ser Cys Thr Asp
 180 185 190
 Thr Phe Phe Val Gln Val Met Thr Ala Ile Leu Thr Met Phe Phe Gly
 195 200 205
 Ile Val Ser Ala Leu Val Ile Met Ile Ser Tyr Gly Tyr Ile Gly Ile
 210 215 220
 Ser Ile Met Lys Ile Thr Ser Ala Lys Gly Arg Ser Lys Ala Phe Asn
 225 230 235 240
 Thr Cys Ala Ser His Leu Thr Ala Val Ser Leu Phe Tyr Thr Ser Gly
 245 250 255
 Ile Phe Val Tyr Leu Ser Ser Ser Ser Gly Gly Ser Ser Ser Phe Asp
 260 265 270
 Arg Phe Ala Ser Val Phe Tyr Thr Val Val Ile Pro Met Leu Asn Pro
 275 280 285
 Phe Ile Tyr Ser Leu Arg Asn Lys Glu Ile Lys Asp Ala Leu Lys Arg
 290 295 300
 Leu Gln Lys Arg Lys Cys Cys
 305 310

<210> 75
 <211> 959
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (13)..(942)

<400> 75

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Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val

1

5

10

ttg cat gga ctc tgc act tca cga cat ctt caa aat ttt ttc ttt ata 99
Leu His Gly Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile
15 20 25

ttt ttc ttt ggg gtc tat gtg gcc att atg ctg ggt aac ctt ctc att 147
Phe Phe Phe Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile
30 35 40 45

ttg gtc act gta att tct gat ccc tgc ctg cac tcc tcc cct atg tac 195
Leu Val Thr Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr
50 55 60

ttc ctg ctg ggg aac cta gct ttc ctg gac atg tgg ctg gcc tca ttt 243
Phe Leu Leu Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe
65 70 75

gcc act ccc aag atg atc agg gat ttc ctt agt gat caa aaa ctc atc 291
Ala Thr Pro Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile
80 85 90

tcc ttt gga gga tgt atg gct caa atc ttc ttc ttg cac ttt act ggt 339
Ser Phe Gly Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly
95 100 105

ggg gct gag atg gtg ctc ctg gtt tcc atg gcc tat gac aga tat gtg 387
Gly Ala Glu Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val
110 115 120 125

gcc ata tgc aaa ccc ttg cat tac atg act ttg atg agt tgg cag act 435
Ala Ile Cys Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr
130 135 140

tgc atc agg cgg gtg ctg gct tca tgg gtc gtt gga ttt gtg cac tcc 483
Cys Ile Arg Arg Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser
145 150 155

atc agt caa gtg gct ttc act gta aat ttg cct tac tgt ggc ccc aat 531
Ile Ser Gln Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn
160 165 170

gag gta gac agc ttc ttc tgt gac ctc cct ctg gtg atc aaa ctt gcc 579
Glu Val Asp Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala
175 180 185

tgc atg gac acc tat gtc ttg ggt ata att atg atc tca gac agt ggg 627
Cys Met Asp Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly

190	195	200	205	
ttg ctt tcc ttg agc tgt ttt ctg ctc ctc ctg atc tcc tac acc gtg				675
Leu Leu Ser Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val	210	215	220	
atc ctc ctc gct atc aga cag cgt gct gcc ggt agc aca tcc aaa gca				723
Ile Leu Leu Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala	225	230	235	
ctc tcc act tgc tct gca cat atc atg gta gtg acg ctg ttc ttt ggc				771
Leu Ser Thr Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly	240	245	250	
cct tgc att ttt gct tat gtg cgg cct ttc agt agg ttc tct gtg gac				819
Pro Cys Ile Phe Ala Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp	255	260	265	
aag ctg ctg tct gtg ttt tat acc att ttt act cca ctc ctg aac ccc				867
Lys Leu Leu Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro	270	275	280	285
att atc tac aca ttg aga aat gag gaa atg aaa gca gct atg aag aaa				915
Ile Ile Tyr Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys	290	295	300	
ctg caa aac cga cgg gtg act ttt caa tgaaatccag ccttcca				959
Leu Gln Asn Arg Arg Val Thr Phe Gln	305	310		

<210> 76
 <211> 310
 <212> PRT
 <213> Homo sapiens

<400> 76
 Met Asp Pro Gln Asn Tyr Ser Leu Val Ser Glu Phe Val Leu His Gly
 1 5 10 15
 Leu Cys Thr Ser Arg His Leu Gln Asn Phe Phe Phe Ile Phe Phe Phe
 20 25 30
 Gly Val Tyr Val Ala Ile Met Leu Gly Asn Leu Leu Ile Leu Val Thr
 35 40 45
 Val Ile Ser Asp Pro Cys Leu His Ser Ser Pro Met Tyr Phe Leu Leu
 50 55 60
 Gly Asn Leu Ala Phe Leu Asp Met Trp Leu Ala Ser Phe Ala Thr Pro
 65 70 75 80
 Lys Met Ile Arg Asp Phe Leu Ser Asp Gln Lys Leu Ile Ser Phe Gly
 85 90 95
 Gly Cys Met Ala Gln Ile Phe Phe Leu His Phe Thr Gly Gly Ala Glu
 100 105 110

Met Val Leu Leu Val Ser Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys
 115 120 125
 Lys Pro Leu His Tyr Met Thr Leu Met Ser Trp Gln Thr Cys Ile Arg
 130 135 140
 Arg Val Leu Ala Ser Trp Val Val Gly Phe Val His Ser Ile Ser Gln
 145 150 155 160
 Val Ala Phe Thr Val Asn Leu Pro Tyr Cys Gly Pro Asn Glu Val Asp
 165 170 175
 Ser Phe Phe Cys Asp Leu Pro Leu Val Ile Lys Leu Ala Cys Met Asp
 180 185 190
 Thr Tyr Val Leu Gly Ile Ile Met Ile Ser Asp Ser Gly Leu Leu Ser
 195 200 205
 Leu Ser Cys Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Leu
 210 215 220
 Ala Ile Arg Gln Arg Ala Ala Gly Ser Thr Ser Lys Ala Leu Ser Thr
 225 230 235 240
 Cys Ser Ala His Ile Met Val Val Thr Leu Phe Phe Gly Pro Cys Ile
 245 250 255
 Phe Ala Tyr Val Arg Pro Phe Ser Arg Phe Ser Val Asp Lys Leu Leu
 260 265 270
 Ser Val Phe Tyr Thr Ile Phe Thr Pro Leu Leu Asn Pro Ile Ile Tyr
 275 280 285
 Thr Leu Arg Asn Glu Glu Met Lys Ala Ala Met Lys Lys Leu Gln Asn
 290 295 300
 Arg Arg Val Thr Phe Gln
 305 310

<210> 77
 <211> 930
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (7)..(918)

<400> 77
 aactaa atg ttg atg aat tac tct agt gcc act gaa ttt tat ctc ctt 48
 Met Leu Met Asn Tyr Ser Ser Ala Thr Glu Phe Tyr Leu Leu
 1 5 10
 ggc ttc cct ggc tct gaa gaa cta cat cat atc ctt ttt gct ata ttc 96

Gly	Phe	Pro	Gly	Ser	Glu	Glu	Leu	His	His	Ile	Leu	Phe	Ala	Ile	Phe		
15					20					25					30		
ttc	ttt	ttc	tac	ttg	gtg	aca	tta	atg	gga	aac	aca	gtc	atc	atc	atg	144	
Phe	Phe	Phe	Tyr	Leu	Val	Thr	Leu	Met	Gly	Asn	Thr	Val	Ile	Ile	Met		
				35					40					45			
att	gtc	tgt	gtg	gat	aaa	cgt	ctg	cag	tcc	ccc	atg	tat	ttc	ttc	ctc	192	
Ile	Val	Cys	Val	Asp	Lys	Arg	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu		
			50					55					60				
ggc	cac	ctc	tct	gcc	ctg	gag	atc	ctg	gtc	aca	acc	ata	atc	gtc	ccc	240	
Gly	His	Leu	Ser	Ala	Leu	Glu	Ile	Leu	Val	Thr	Thr	Ile	Ile	Val	Pro		
		65					70					75					
gtg	atg	ctt	tgg	gga	ttg	ctg	ctc	cct	ggg	atg	cag	aca	ata	tat	ttg	288	
Val	Met	Leu	Trp	Gly	Leu	Leu	Leu	Pro	Gly	Met	Gln	Thr	Ile	Tyr	Leu		
	80					85					90						
tct	gcc	tgt	gtt	gtc	cag	ctc	ttc	ttg	tac	ctt	gct	gtg	ggg	aca	aca	336	
Ser	Ala	Cys	Val	Val	Gln	Leu	Phe	Leu	Tyr	Leu	Ala	Val	Gly	Thr	Thr		
	95				100					105					110		
gag	ttc	gca	tta	ctt	gga	gca	atg	gct	gtg	gac	cgt	tat	gtg	gct	gtc	384	
Glu	Phe	Ala	Leu	Leu	Gly	Ala	Met	Ala	Val	Asp	Arg	Tyr	Val	Ala	Val		
				115					120					125			
tgt	aac	cct	ctg	agg	tac	aac	atc	att	atg	aac	aga	cac	acc	tgc	aac	432	
Cys	Asn	Pro	Leu	Arg	Tyr	Asn	Ile	Ile	Met	Asn	Arg	His	Thr	Cys	Asn		
			130					135					140				
ttt	gtg	gtt	ctt	gtg	tca	tgg	gtg	ttt	ggg	ttt	ctt	ttt	caa	atc	tgg	480	
Phe	Val	Val	Leu	Val	Ser	Trp	Val	Phe	Gly	Phe	Leu	Phe	Gln	Ile	Trp		
		145					150					155					
ccg	gtc	tat	gtc	atg	ttt	cag	ctt	act	tac	tgc	aaa	tca	aat	gtg	gtg	528	
Pro	Val	Tyr	Val	Met	Phe	Gln	Leu	Thr	Tyr	Cys	Lys	Ser	Asn	Val	Val		
	160					165					170						
aac	aat	ttt	ttt	tgt	gac	cga	ggg	caa	ttg	ctc	aaa	cta	tcc	tgc	aat	576	
Asn	Asn	Phe	Phe	Cys	Asp	Arg	Gly	Gln	Leu	Leu	Lys	Leu	Ser	Cys	Asn		
	175				180					185					190		
aat	act	ctt	ttc	acg	gag	ttt	atc	ctc	ttc	tta	atg	gct	gtt	ttt	gtt	624	
Asn	Thr	Leu	Phe	Thr	Glu	Phe	Ile	Leu	Phe	Leu	Met	Ala	Val	Phe	Val		
				195					200					205			
ctc	ttt	ggg	tct	ttg	atc	cct	aca	att	gtc	tcc	aac	gcc	tac	atc	atc	672	
Leu	Phe	Gly	Ser	Leu	Ile	Pro	Thr	Ile	Val	Ser	Asn	Ala	Tyr	Ile	Ile		
			210					215					220				
tcc	acc	att	ctc	aag	atc	ccg	tca	tcc	tct	ggc	cgg	agg	aaa	tcc	ttc	720	
Ser	Thr	Ile	Leu	Lys	Ile	Pro	Ser	Ser	Ser	Gly	Arg	Arg	Lys	Ser	Phe		
		225					230					235					
tcc	act	tgt	gcc	tcc	cac	ttc	acc	tgt	gtt	gtg	att	ggc	tac	ggc	agc	768	
Ser	Thr	Cys	Ala	Ser	His	Phe	Thr	Cys	Val	Val	Ile	Gly	Tyr	Gly	Ser		

240	245	250	
tgc ttg ttt ctc tac gtg aaa ccc aag caa acg cag gca gct gat tac			816
Cys Leu Phe Leu Tyr Val Lys Pro Lys Gln Thr Gln Ala Ala Asp Tyr			
255	260	265	270
aat tgg gca gtt tcc ccg atg gtt tca gta gta act cct ttc ctc aat			864
Asn Trp Ala Val Ser Pro Met Val Ser Val Val Thr Pro Phe Leu Asn			
	275	280	285
cct ttc atc ttc acc ctc cgg aat gat aaa gtc ata gag gcc ctt cgg			912
Pro Phe Ile Phe Thr Leu Arg Asn Asp Lys Val Ile Glu Ala Leu Arg			
	290	295	300
atg ggg tgaaacgctg ct			930
Met Gly			

<210> 78
 <211> 304
 <212> PRT
 <213> Homo sapiens

<400> 78

Met	Leu	Met	Asn	Tyr	Ser	Ser	Ala	Thr	Glu	Phe	Tyr	Leu	Leu	Gly	Phe
1				5					10					15	
Pro	Gly	Ser	Glu	Glu	Leu	His	His	Ile	Leu	Phe	Ala	Ile	Phe	Phe	Phe
			20					25					30		
Phe	Tyr	Leu	Val	Thr	Leu	Met	Gly	Asn	Thr	Val	Ile	Ile	Met	Ile	Val
	35						40					45			
Cys	Val	Asp	Lys	Arg	Leu	Gln	Ser	Pro	Met	Tyr	Phe	Phe	Leu	Gly	His
	50					55					60				
Leu	Ser	Ala	Leu	Glu	Ile	Leu	Val	Thr	Thr	Ile	Ile	Val	Pro	Val	Met
65					70					75					80
Leu	Trp	Gly	Leu	Leu	Leu	Pro	Gly	Met	Gln	Thr	Ile	Tyr	Leu	Ser	Ala
			85						90					95	
Cys	Val	Val	Gln	Leu	Phe	Leu	Tyr	Leu	Ala	Val	Gly	Thr	Thr	Glu	Phe
			100					105					110		
Ala	Leu	Leu	Gly	Ala	Met	Ala	Val	Asp	Arg	Tyr	Val	Ala	Val	Cys	Asn
	115						120					125			
Pro	Leu	Arg	Tyr	Asn	Ile	Ile	Met	Asn	Arg	His	Thr	Cys	Asn	Phe	Val
	130					135					140				
Val	Leu	Val	Ser	Trp	Val	Phe	Gly	Phe	Leu	Phe	Gln	Ile	Trp	Pro	Val
145					150					155					160
Tyr	Val	Met	Phe	Gln	Leu	Thr	Tyr	Cys	Lys	Ser	Asn	Val	Val	Asn	Asn
				165					170					175	

Phe Phe Cys Asp Arg Gly Gln Leu Leu Lys Leu Ser Cys Asn Asn Thr
 180 185 190
 Leu Phe Thr Glu Phe Ile Leu Phe Leu Met Ala Val Phe Val Leu Phe
 195 200 205
 Gly Ser Leu Ile Pro Thr Ile Val Ser Asn Ala Tyr Ile Ile Ser Thr
 210 215 220
 Ile Leu Lys Ile Pro Ser Ser Ser Gly Arg Arg Lys Ser Phe Ser Thr
 225 230 235 240
 Cys Ala Ser His Phe Thr Cys Val Val Ile Gly Tyr Gly Ser Cys Leu
 245 250 255
 Phe Leu Tyr Val Lys Pro Lys Gln Thr Gln Ala Ala Asp Tyr Asn Trp
 260 265 270
 Ala Val Ser Pro Met Val Ser Val Val Thr Pro Phe Leu Asn Pro Phe
 275 280 285
 Ile Phe Thr Leu Arg Asn Asp Lys Val Ile Glu Ala Leu Arg Met Gly
 290 295 300

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 <213> Homo sapiens

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 gaa ttt att ctc atg ggg att aca gac aac act ggg ctg cag gct cca 96
 Glu Phe Ile Leu Met Gly Ile Thr Asp Asn Thr Gly Leu Gln Ala Pro
 20 25 30
 ctg ttt gga ctc ttc ctc atc ata tat ctg gtc aca gtg ata ggc aat 144
 Leu Phe Gly Leu Phe Leu Ile Ile Tyr Leu Val Thr Val Ile Gly Asn
 35 40 45
 ctg ggc atg gtt atc ttg acc tac ttg gac tcc aag cta cac acc ccc 192
 Leu Gly Met Val Ile Leu Thr Tyr Leu Asp Ser Lys Leu His Thr Pro
 50 55 60
 atg tac ttt ttc ctt aga cat ttg tca atc act gat ctt ggt tac tcc 240
 Met Tyr Phe Phe Leu Arg His Leu Ser Ile Thr Asp Leu Gly Tyr Ser
 65 70 75 80
 act gtc att gcc ccg aag atg tta gta aac ttc ata gtg cac aaa aac 288

Thr Val Ile Ala Pro Lys Met Leu Val Asn Phe Ile Val His Lys Asn	
85 90 95	
aca att tct tac aat tgg tat gcc act cag cta gca ttc ttt gag att	336
Thr Ile Ser Tyr Asn Trp Tyr Ala Thr Gln Leu Ala Phe Phe Glu Ile	
100 105 110	
ttc atc atc tct gag ctc ttt att cta tca gca atg gcc tat gat cgc	384
Phe Ile Ile Ser Glu Leu Phe Ile Leu Ser Ala Met Ala Tyr Asp Arg	
115 120 125	
tac gta gcc atc tgt aaa cct ctt ctg tac gtg atc atc atg gca gag	432
Tyr Val Ala Ile Cys Lys Pro Leu Leu Tyr Val Ile Ile Met Ala Glu	
130 135 140	
aaa gta ctt tgg gtg ctg gta att gtt ccc tat ctc tat agc acg ttt	480
Lys Val Leu Trp Val Leu Val Ile Val Pro Tyr Leu Tyr Ser Thr Phe	
145 150 155 160	
gtg tca cta ttt ctc aca att aag tta ttt aaa ctg tcc ttc tgt ggc	528
Val Ser Leu Phe Leu Thr Ile Lys Leu Phe Lys Leu Ser Phe Cys Gly	
165 170 175	
tca aac ata atc agc tat ttt tac tgt gac tgt atc cct ctg atg tcc	576
Ser Asn Ile Ile Ser Tyr Phe Tyr Cys Asp Cys Ile Pro Leu Met Ser	
180 185 190	
ata ctc tgt tct gac aca aat gaa tta gaa tta ata att ttg atc ttc	624
Ile Leu Cys Ser Asp Thr Asn Glu Leu Glu Leu Ile Ile Leu Ile Phe	
195 200 205	
tca ggc tgt aat ttg ctc ttc tcc ctc tca att gtt ctc ata tcc tac	672
Ser Gly Cys Asn Leu Leu Phe Ser Leu Ser Ile Val Leu Ile Ser Tyr	
210 215 220	
atg ttt att cta gtg gcc att ctc aga atg aac tca agg aaa ggg agg	720
Met Phe Ile Leu Val Ala Ile Leu Arg Met Asn Ser Arg Lys Gly Arg	
225 230 235 240	
tac aaa gcc ttc tcc acc tgt agc tct cat ctg aca gtg gtg atc atg	768
Tyr Lys Ala Phe Ser Thr Cys Ser Ser His Leu Thr Val Val Ile Met	
245 250 255	
ttc tat ggg aca ttg tta ttt att tac ttg caa ccc gag tcc agt cat	816
Phe Tyr Gly Thr Leu Leu Phe Ile Tyr Leu Gln Pro Glu Ser Ser His	
260 265 270	
act ttg gct att gat aaa atg gcc tca gtg ttt tat acc ctg ttg att	864
Thr Leu Ala Ile Asp Lys Met Ala Ser Val Phe Tyr Thr Leu Leu Ile	
275 280 285	
cct atg ctg aat ccg ttg atc tac agc cta agg aac aaa gaa gta aaa	912
Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys	
290 295 300	
gat gct cta aag aga act tta acc aat cga ttc aaa att ccc att	957
Asp Ala Leu Lys Arg Thr Leu Thr Asn Arg Phe Lys Ile Pro Ile	

974

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Leu	Phe	Gly	Leu	Phe	Leu	Ile	Ile	Tyr	Leu	Val	Thr	Val	Ile	Gly	Asn
		35					40					45			
Leu	Gly	Met	Val	Ile	Leu	Thr	Tyr	Leu	Asp	Ser	Lys	Leu	His	Thr	Pro
	50					55					60				
Met	Tyr	Phe	Phe	Leu	Arg	His	Leu	Ser	Ile	Thr	Asp	Leu	Gly	Tyr	Ser
65					70					75					80
Thr	Val	Ile	Ala	Pro	Lys	Met	Leu	Val	Asn	Phe	Ile	Val	His	Lys	Asn
				85					90					95	
Thr	Ile	Ser	Tyr	Asn	Trp	Tyr	Ala	Thr	Gln	Leu	Ala	Phe	Phe	Glu	Ile
			100					105					110		
Phe	Ile	Ile	Ser	Glu	Leu	Phe	Ile	Leu	Ser	Ala	Met	Ala	Tyr	Asp	Arg
		115					120					125			
Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	Leu	Tyr	Val	Ile	Ile	Met	Ala	Glu
	130					135					140				
Lys	Val	Leu	Trp	Val	Leu	Val	Ile	Val	Pro	Tyr	Leu	Tyr	Ser	Thr	Phe
145					150					155					160
Val	Ser	Leu	Phe	Leu	Thr	Ile	Lys	Leu	Phe	Lys	Leu	Ser	Phe	Cys	Gly
				165					170					175	
Ser	Asn	Ile	Ile	Ser	Tyr	Phe	Tyr	Cys	Asp	Cys	Ile	Pro	Leu	Met	Ser
			180					185					190		
Ile	Leu	Cys	Ser	Asp	Thr	Asn	Glu	Leu	Glu	Leu	Ile	Ile	Leu	Ile	Phe
		195					200					205			
Ser	Gly	Cys	Asn	Leu	Leu	Phe	Ser	Leu	Ser	Ile	Val	Leu	Ile	Ser	Tyr
	210					215					220				
Met	Phe	Ile	Leu	Val	Ala	Ile	Leu	Arg	Met	Asn	Ser	Arg	Lys	Gly	Arg
225					230					235					240
Tyr	Lys	Ala	Phe	Ser	Thr	Cys	Ser	Ser	His	Leu	Thr	Val	Val	Ile	Met

				245						250					255
Phe	Tyr	Gly	Thr	Leu	Leu	Phe	Ile	Tyr	Leu	Gln	Pro	Glu	Ser	Ser	His
			260					265					270		
Thr	Leu	Ala	Ile	Asp	Lys	Met	Ala	Ser	Val	Phe	Tyr	Thr	Leu	Leu	Ile
		275					280					285			
Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu	Val	Lys
	290					295					300				
Asp	Ala	Leu	Lys	Arg	Thr	Leu	Thr	Asn	Arg	Phe	Lys	Ile	Pro	Ile	
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<220>
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tat ctc acc agc ttt cct gga ttg gaa ggc atc aaa cac tgg att ttc 98
 Tyr Leu Thr Ser Phe Pro Gly Leu Glu Gly Ile Lys His Trp Ile Phe
 15 20 25

atc ccc ttt ttc ttt atg tac atg gtt gcc atc tca ggc aat tgt ttc 146
 Ile Pro Phe Phe Phe Met Tyr Met Val Ala Ile Ser Gly Asn Cys Phe
 30 35 40 45

att ctg atc att att aag acc aac cct cgt ctg cac aca ccc atg tac 194
 Ile Leu Ile Ile Ile Lys Thr Asn Pro Arg Leu His Thr Pro Met Tyr
 50 55 60

tat cta cta tcc ttg ctg gcc ctc act gac ctg ggg ctg tgt gtg tcc 242
 Tyr Leu Leu Ser Leu Leu Ala Leu Thr Asp Leu Gly Leu Cys Val Ser
 65 70 75

acg ttg ccc acc act atg ggg atc ttc tgg ttt aac tcc cat agt atc 290
 Thr Leu Pro Thr Thr Met Gly Ile Phe Trp Phe Asn Ser His Ser Ile
 80 85 90

tac ttt gga gcg tgt caa atc cag atg ttc tgc atc cac tct ttt tcc 338
 Tyr Phe Gly Ala Cys Gln Ile Gln Met Phe Cys Ile His Ser Phe Ser
 95 100 105

ttc atg gag tcc tca gtg ctc ctc atg atg tcc ttt gac cgc ttt gtg 386
 Phe Met Glu Ser Ser Val Leu Leu Met Met Ser Phe Asp Arg Phe Val
 110 115 120 125

gcc atc tgc cac cct ctg agg tat tgc gtc att atc act ggc cag caa	434
Ala Ile Cys His Pro Leu Arg Tyr Ser Val Ile Ile Thr Gly Gln Gln	
130 135 140	
gtg gtc aga gca ggc cta att gtc atc ttc cgg gga cct gtg gcc act	482
Val Val Arg Ala Gly Leu Ile Val Ile Phe Arg Gly Pro Val Ala Thr	
145 150 155	
atc cct att gtc ctc ctc ctg aag gct ttt ccc tac tgt gga tct gtg	530
Ile Pro Ile Val Leu Leu Leu Lys Ala Phe Pro Tyr Cys Gly Ser Val	
160 165 170	
gtc ctc tcc cac tca ttt tgc ctg cac cag gaa gtg ata cag ctg gcc	578
Val Leu Ser His Ser Phe Cys Leu His Gln Glu Val Ile Gln Leu Ala	
175 180 185	
tgc aca gat atc acc ttc aat aat ctg tat gga ctg atg gtg gta gtt	626
Cys Thr Asp Ile Thr Phe Asn Asn Leu Tyr Gly Leu Met Val Val Val	
190 195 200 205	
ttc act gtg atg ctg gac ctg gtg ctc atc gca ctg tcc tat gga ctc	674
Phe Thr Val Met Leu Asp Leu Val Leu Ile Ala Leu Ser Tyr Gly Leu	
210 215 220	
atc ctg cac aca gta gca ggc ctg gcc tcc caa gag gag cag cgc cgt	722
Ile Leu His Thr Val Ala Gly Leu Ala Ser Gln Glu Glu Gln Arg Arg	
225 230 235	
gcc ttt cag aca tgc acc gct cat ctc tgt gct gtg cta gta ttc ttt	770
Ala Phe Gln Thr Cys Thr Ala His Leu Cys Ala Val Leu Val Phe Phe	
240 245 250	
gtg ccc atg atg ggg ctg tcc ccg gtg cac cgt ttt ggg aag cat gcc	818
Val Pro Met Met Gly Leu Ser Pro Val His Arg Phe Gly Lys His Ala	
255 260 265	
cca cct gct att cat ctt ctt atg gcc aat gtc tac ctt ttt gtg cct	866
Pro Pro Ala Ile His Leu Leu Met Ala Asn Val Tyr Leu Phe Val Pro	
270 275 280 285	
ccc atg ctt aac cca atc ata tac agc att aag acc aag gag atc cac	914
Pro Met Leu Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Glu Ile His	
290 295 300	
cgt gcc att atc aag ttc cta ggt ctt aaa aag gcc agt aaa	956
Arg Ala Ile Ile Lys Phe Leu Gly Leu Lys Lys Ala Ser Lys	
305 310 315	
tgagtcctgg ggctaaaact aacccataga ggcctatcca acagtaaagt agccccaat	1016
gggactga	1024

<210> 82
 <211> 315
 <212> PRT

<213> Homo sapiens

<400> 82

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			20					25					30		
Phe	Phe	Met	Tyr	Met	Val	Ala	Ile	Ser	Gly	Asn	Cys	Phe	Ile	Leu	Ile
		35					40					45			
Ile	Ile	Lys	Thr	Asn	Pro	Arg	Leu	His	Thr	Pro	Met	Tyr	Tyr	Leu	Leu
	50					55					60				
Ser	Leu	Leu	Ala	Leu	Thr	Asp	Leu	Gly	Leu	Cys	Val	Ser	Thr	Leu	Pro
65					70					75					80
Thr	Thr	Met	Gly	Ile	Phe	Trp	Phe	Asn	Ser	His	Ser	Ile	Tyr	Phe	Gly
				85					90					95	
Ala	Cys	Gln	Ile	Gln	Met	Phe	Cys	Ile	His	Ser	Phe	Ser	Phe	Met	Glu
			100					105					110		
Ser	Ser	Val	Leu	Leu	Met	Met	Ser	Phe	Asp	Arg	Phe	Val	Ala	Ile	Cys
		115					120					125			
His	Pro	Leu	Arg	Tyr	Ser	Val	Ile	Ile	Thr	Gly	Gln	Gln	Val	Val	Arg
	130					135					140				
Ala	Gly	Leu	Ile	Val	Ile	Phe	Arg	Gly	Pro	Val	Ala	Thr	Ile	Pro	Ile
145					150					155					160
Val	Leu	Leu	Leu	Lys	Ala	Phe	Pro	Tyr	Cys	Gly	Ser	Val	Val	Leu	Ser
				165					170					175	
His	Ser	Phe	Cys	Leu	His	Gln	Glu	Val	Ile	Gln	Leu	Ala	Cys	Thr	Asp
			180					185					190		
Ile	Thr	Phe	Asn	Asn	Leu	Tyr	Gly	Leu	Met	Val	Val	Val	Phe	Thr	Val
		195					200					205			
Met	Leu	Asp	Leu	Val	Leu	Ile	Ala	Leu	Ser	Tyr	Gly	Leu	Ile	Leu	His
	210					215					220				
Thr	Val	Ala	Gly	Leu	Ala	Ser	Gln	Glu	Glu	Gln	Arg	Arg	Ala	Phe	Gln
225					230					235					240
Thr	Cys	Thr	Ala	His	Leu	Cys	Ala	Val	Leu	Val	Phe	Phe	Val	Pro	Met
				245					250					255	
Met	Gly	Leu	Ser	Pro	Val	His	Arg	Phe	Gly	Lys	His	Ala	Pro	Pro	Ala
			260					265					270		
Ile	His	Leu	Leu	Met	Ala	Asn	Val	Tyr	Leu	Phe	Val	Pro	Pro	Met	Leu
		275					280					285			

Asn Pro Ile Ile Tyr Ser Ile Lys Thr Lys Glu Ile His Arg Ala Ile
 290 295 300

Ile Lys Phe Leu Gly Leu Lys Lys Ala Ser Lys
 305 310 315

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 <211> 969
 <212> DNA
 <213> Homo sapiens

<220>
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 ctc cag ctt ttc tat ttt tgt ttc ttc tct gtg ttg tat aca gtc att 95
 Leu Gln Leu Phe Tyr Phe Cys Phe Phe Ser Val Leu Tyr Thr Val Ile
 20 25 30
 gtg ctg gga aat ctt ctc att atc ctc aca gtg act tct gat acc agc 143
 Val Leu Gly Asn Leu Leu Ile Ile Leu Thr Val Thr Ser Asp Thr Ser
 35 40 45
 ctg cac tcc cct atg tac ttt ctc ttg gga aac ctt tcc ttt gtt gac 191
 Leu His Ser Pro Met Tyr Phe Leu Leu Gly Asn Leu Ser Phe Val Asp
 50 55 60
 att tgt cag gct tct ttt gct acc cct aaa atg att gca gat ttt ctg 239
 Ile Cys Gln Ala Ser Phe Ala Thr Pro Lys Met Ile Ala Asp Phe Leu
 65 70 75
 agt gca cac gag acc ata tct ttc agt ggc tgc ata gcc caa att ttc 287
 Ser Ala His Glu Thr Ile Ser Phe Ser Gly Cys Ile Ala Gln Ile Phe
 80 85 90 95
 ttt att cac ctt ttt act gga ggg gag atg gtg cta ctt gtt tgc atg 335
 Phe Ile His Leu Phe Thr Gly Gly Glu Met Val Leu Leu Val Ser Met
 100 105 110
 gcc tat gac agg tat gta gcc ata tgc aaa ccc tta tac tat gtg gtc 383
 Ala Tyr Asp Arg Arg Tyr Val Ala Ile Cys Lys Pro Leu Tyr Tyr Val Val
 115 120 125
 atc atg agc cga agg aca tgc act gtc ttg gta atg atc tcc tgg gct 431
 Ile Met Ser Arg Arg Thr Cys Thr Val Leu Val Met Ile Ser Trp Ala
 130 135 140
 gtg agc ttg gtg cac aca tta agc cag tta tca ttt act gtg aac ctg 479
 Val Ser Leu Val His Thr Leu Ser Gln Leu Ser Phe Thr Val Asn Leu
 145 150 155

cct ttt tgt gga cct aat gta gta gac agc ttt ttt tgt gat ctt cct	527
Pro Phe Cys Gly Pro Asn Val Val Asp Ser Phe Phe Cys Asp Leu Pro	
160 165 170 175	
cga gtc acc aaa ctt gcc tgc ctg gac tct tac atc att gaa ata cta	575
Arg Val Thr Lys Leu Ala Cys Leu Asp Ser Tyr Ile Ile Glu Ile Leu	
180 185 190	
att gtg gtc aat agt gga att ctt tcc cta agc act ttc tct ctc ttg	623
Ile Val Val Asn Ser Gly Ile Leu Ser Leu Ser Thr Phe Ser Leu Leu	
195 200 205	
gtc agc tcc tac atc att att ctt gtt aca gtt tgg ctc aag tct tca	671
Val Ser Ser Tyr Ile Ile Ile Leu Val Thr Val Trp Leu Lys Ser Ser	
210 215 220	
gct gca atg gca aag gca ttt tct acg ctg gct tcc cat att gca gta	719
Ala Ala Met Ala Lys Ala Phe Ser Thr Leu Ala Ser His Ile Ala Val	
225 230 235	
gta ata tta ttc ttt gga cct tgc atc ttc atc tat gtg tgg ccc ttt	767
Val Ile Leu Phe Phe Gly Pro Cys Ile Phe Ile Tyr Val Trp Pro Phe	
240 245 250 255	
acc atc tct cct ttg gat aaa ttt ctt gcc ata ttt tac act gtt ttc	815
Thr Ile Ser Pro Leu Asp Lys Phe Leu Ala Ile Phe Tyr Thr Val Phe	
260 265 270	
acc ccc gtc cta aac ccc att att tat aca cta agg aat agg gat atg	863
Thr Pro Val Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Arg Asp Met	
275 280 285	
aag gct gcc gta agg aaa att gtg aac cat tac ctg agg cca agg aga	911
Lys Ala Ala Val Arg Lys Ile Val Asn His Tyr Leu Arg Pro Arg Arg	
290 295 300	
att tct gaa atg tca cta gta gtg aga act tcc ttt cat taagacaaaa	960
Ile Ser Glu Met Ser Leu Val Val Arg Thr Ser Phe His	
305 310 315	
ctccttcaa	969

<210> 84
 <211> 316
 <212> PRT
 <213> Homo sapiens

<400> 84
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 Gln Leu Phe Tyr Phe Cys Phe Phe Ser Val Leu Tyr Thr Val Ile Val
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 Leu Gly Asn Leu Leu Ile Ile Leu Thr Val Thr Ser Asp Thr Ser Leu

35					40					45					
His	Ser	Pro	Met	Tyr	Phe	Leu	Leu	Gly	Asn	Leu	Ser	Phe	Val	Asp	Ile
50						55				60					
Cys	Gln	Ala	Ser	Phe	Ala	Thr	Pro	Lys	Met	Ile	Ala	Asp	Phe	Leu	Ser
65					70					75					80
Ala	His	Glu	Thr	Ile	Ser	Phe	Ser	Gly	Cys	Ile	Ala	Gln	Ile	Phe	Phe
				85					90					95	
Ile	His	Leu	Phe	Thr	Gly	Gly	Glu	Met	Val	Leu	Leu	Val	Ser	Met	Ala
			100					105					110		
Tyr	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Lys	Pro	Leu	Tyr	Tyr	Val	Val	Ile
		115					120					125			
Met	Ser	Arg	Arg	Thr	Cys	Thr	Val	Leu	Val	Met	Ile	Ser	Trp	Ala	Val
		130				135					140				
Ser	Leu	Val	His	Thr	Leu	Ser	Gln	Leu	Ser	Phe	Thr	Val	Asn	Leu	Pro
145					150					155					160
Phe	Cys	Gly	Pro	Asn	Val	Val	Asp	Ser	Phe	Phe	Cys	Asp	Leu	Pro	Arg
				165					170					175	
Val	Thr	Lys	Leu	Ala	Cys	Leu	Asp	Ser	Tyr	Ile	Ile	Glu	Ile	Leu	Ile
			180					185					190		
Val	Val	Asn	Ser	Gly	Ile	Leu	Ser	Leu	Ser	Thr	Phe	Ser	Leu	Leu	Val
		195					200					205			
Ser	Ser	Tyr	Ile	Ile	Ile	Leu	Val	Thr	Val	Trp	Leu	Lys	Ser	Ser	Ala
		210				215					220				
Ala	Met	Ala	Lys	Ala	Phe	Ser	Thr	Leu	Ala	Ser	His	Ile	Ala	Val	Val
225					230					235					240
Ile	Leu	Phe	Phe	Gly	Pro	Cys	Ile	Phe	Ile	Tyr	Val	Trp	Pro	Phe	Thr
				245					250					255	
Ile	Ser	Pro	Leu	Asp	Lys	Phe	Leu	Ala	Ile	Phe	Tyr	Thr	Val	Phe	Thr
			260					265					270		
Pro	Val	Leu	Asn	Pro	Ile	Ile	Tyr	Thr	Leu	Arg	Asn	Arg	Asp	Met	Lys
		275					280					285			
Ala	Ala	Val	Arg	Lys	Ile	Val	Asn	His	Tyr	Leu	Arg	Pro	Arg	Arg	Ile
		290				295					300				
Ser	Glu	Met	Ser	Leu	Val	Val	Arg	Thr	Ser	Phe	His				
305					310					315					

<210> 85
<211> 934

<212> DNA
 <213> Homo sapiens

<220>
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 <222> (9)..(929)

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ctg ggg ctc tcg cag act cgg gag ctc cag cgt ttc ctg ttt cta atg 98
 Leu Gly Leu Ser Gln Thr Arg Glu Leu Gln Arg Phe Leu Phe Leu Met
 15 20 25 30

ttc ctg ttt gtc tac atc acc act gtt atg gga aac atc ctt atc atc 146
 Phe Leu Phe Val Tyr Ile Thr Thr Val Met Gly Asn Ile Leu Ile Ile
 35 40 45

atc aca gtg acc tct gat tcc cag ctc cac aca ccc atg tac ttt ctg 194
 Ile Thr Val Thr Ser Asp Ser Gln Leu His Thr Pro Met Tyr Phe Leu
 50 55 60

ctc cga aac ctg gct gtc cta gac ctc tgt ttc tct tca gtc act gct 242
 Leu Arg Asn Leu Ala Val Leu Asp Leu Cys Phe Ser Ser Val Thr Ala
 65 70 75

ccc aaa atg cta gtg gac ctc ctc tct gag aag aaa acc atc tct tac 290
 Pro Lys Met Leu Val Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Tyr
 80 85 90

cag ggc tgc atg ggt cag atc ttc ttc ttc cac ttt ttg gga ggt gcc 338
 Gln Gly Cys Met Gly Gln Ile Phe Phe Phe His Phe Leu Gly Gly Ala
 95 100 105 110

atg gtc ttc ttc ctc tca gtg atg gcc ttt gac cgc ctc att gcc atc 386
 Met Val Phe Phe Leu Ser Val Met Ala Phe Asp Arg Leu Ile Ala Ile
 115 120 125

tcc cgg ccc ctc cgc tat gtc acc gtc atg aac act cag ctc tgg gtg 434
 Ser Arg Pro Leu Arg Tyr Val Thr Val Met Asn Thr Gln Leu Trp Val
 130 135 140

ggg ctg gtg gta gcc acc tgg gtg gga ggc ttt gtc cac tct att gtc 482
 Gly Leu Val Val Ala Thr Trp Val Gly Gly Phe Val His Ser Ile Val
 145 150 155

cag ctg gct ctg atg ctc cca ctg ccc ttc tgt ggc ccc aac att ttg 530
 Gln Leu Ala Leu Met Leu Pro Leu Pro Phe Cys Gly Pro Asn Ile Leu
 160 165 170

gat aac ttc tac tgt gat gtt ccc caa gta ctg aga ctt gcc tgc act 578
 Asp Asn Phe Tyr Cys Asp Val Pro Gln Val Leu Arg Leu Ala Cys Thr
 175 180 185 190

gac acc tca ctg ctg gag ttc ctc aag atc tcc aac agt ggg ctg ctg 626

Asp	Thr	Ser	Leu	Leu	Glu	Phe	Leu	Lys	Ile	Ser	Asn	Ser	Gly	Leu	Leu		
				195					200					205			
gat	gtc	gtc	tgg	ttc	ttc	ctc	ctc	ctg	atg	tcc	tac	tta	ttc	atc	ctg	674	
Asp	Val	Val	Trp	Phe	Phe	Leu	Leu	Leu	Met	Ser	Tyr	Leu	Phe	Ile	Leu		
			210					215					220				
gtg	atg	ctg	agg	tca	cat	cca	ggg	gag	gca	aga	agg	aag	gca	gct	tcc	722	
Val	Met	Leu	Arg	Ser	His	Pro	Gly	Glu	Ala	Arg	Arg	Lys	Ala	Ala	Ser		
			225				230					235					
acc	tgc	acc	acc	cac	atc	atc	gtg	gtt	tcc	atg	atc	ttc	gtt	cca	agc	770	
Thr	Cys	Thr	Thr	His	Ile	Ile	Val	Val	Ser	Met	Ile	Phe	Val	Pro	Ser		
			240				245					250					
att	tac	ctc	tat	gcc	cgg	ccc	ttc	act	cca	ttc	cct	atg	gac	aag	ctt	818	
Ile	Tyr	Leu	Tyr	Ala	Arg	Pro	Phe	Thr	Pro	Phe	Pro	Met	Asp	Lys	Leu		
			255		260					265					270		
gtg	tcc	atc	ggc	cac	aca	gtc	atg	acc	ccc	atg	ctc	aac	ccc	atg	atc	866	
Val	Ser	Ile	Gly	His	Thr	Val	Met	Thr	Pro	Met	Leu	Asn	Pro	Met	Ile		
				275					280					285			
tat	aac	ctg	agg	aac	ccg	gac	atg	cag	gca	gca	gtg	aga	aga	tta	ggg	914	
Tyr	Asn	Leu	Arg	Asn	Pro	Asp	Met	Gln	Ala	Ala	Val	Arg	Arg	Leu	Gly		
			290					295					300				
aga	cac	cgg	ctg	gtt	tgaga											934	
Arg	His	Arg	Leu	Val													
			305														

<210> 86
 <211> 307
 <212> PRT
 <213> Homo sapiens

<400> 86																
Met	Glu	Thr	Gly	Asn	Leu	Thr	Trp	Val	Ser	Asp	Phe	Val	Phe	Leu	Gly	
1				5					10					15		
Leu	Ser	Gln	Thr	Arg	Glu	Leu	Gln	Arg	Phe	Leu	Phe	Leu	Met	Phe	Leu	
			20					25					30			
Phe	Val	Tyr	Ile	Thr	Thr	Val	Met	Gly	Asn	Ile	Leu	Ile	Ile	Ile	Thr	
			35				40					45				
Val	Thr	Ser	Asp	Ser	Gln	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Arg	
			50				55				60					
Asn	Leu	Ala	Val	Leu	Asp	Leu	Cys	Phe	Ser	Ser	Val	Thr	Ala	Pro	Lys	
			65			70				75					80	
Met	Leu	Val	Asp	Leu	Leu	Ser	Glu	Lys	Lys	Thr	Ile	Ser	Tyr	Gln	Gly	
				85				90						95		
Cys	Met	Gly	Gln	Ile	Phe	Phe	Phe	His	Phe	Leu	Gly	Gly	Ala	Met	Val	

100	105	110
Phe Phe Leu Ser Val Met Ala	Phe Asp Arg Leu Ile Ala	Ile Ser Arg
115	120	125
Pro Leu Arg Tyr Val Thr Val Met Asn Thr Gln Leu Trp Val Gly Leu		
130	135	140
Val Val Ala Thr Trp Val Gly Gly Phe Val His Ser Ile Val Gln Leu		
145	150	155
Ala Leu Met Leu Pro Leu Pro Phe Cys Gly Pro Asn Ile Leu Asp Asn		
165	170	175
Phe Tyr Cys Asp Val Pro Gln Val Leu Arg Leu Ala Cys Thr Asp Thr		
180	185	190
Ser Leu Leu Glu Phe Leu Lys Ile Ser Asn Ser Gly Leu Leu Asp Val		
195	200	205
Val Trp Phe Phe Leu Leu Leu Met Ser Tyr Leu Phe Ile Leu Val Met		
210	215	220
Leu Arg Ser His Pro Gly Glu Ala Arg Arg Lys Ala Ala Ser Thr Cys		
225	230	235
Thr Thr His Ile Ile Val Val Ser Met Ile Phe Val Pro Ser Ile Tyr		
245	250	255
Leu Tyr Ala Arg Pro Phe Thr Pro Phe Pro Met Asp Lys Leu Val Ser		
260	265	270
Ile Gly His Thr Val Met Thr Pro Met Leu Asn Pro Met Ile Tyr Asn		
275	280	285
Leu Arg Asn Pro Asp Met Gln Ala Ala Val Arg Arg Leu Gly Arg His		
290	295	300
Arg Leu Val		
305		

<210> 87
 <211> 897
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3)..(890)

<400> 87
 ac cct gag ggg caa aag gtt tta ttt gtc aca ttc tta cta atc tac 47
 Pro Glu Gly Gln Lys Val Leu Phe Val Thr Phe Leu Leu Ile Tyr
 1 5 10 15

atg gtg acg ata atg ggc aac ctg ctt atc ata gtg acc atc atg gcc	95
Met Val Thr Ile Met Gly Asn Leu Leu Ile Ile Val Thr Ile Met Ala	
20 25 30	
agc cag tcc ctg ggt tcc ccc atg tac ttt ttt ctg gct tct tta tca	143
Ser Gln Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Ser Leu Ser	
35 40 45	
ttc ata gat acc gtc tat tct act gca ttt gct ccc aaa atg att gtt	191
Phe Ile Asp Thr Val Tyr Ser Thr Ala Phe Ala Pro Lys Met Ile Val	
50 55 60	
gac ttg ctc tct gag aaa aag acc att tcc ttt cag ggt tgt atg gct	239
Asp Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Gln Gly Cys Met Ala	
65 70 75	
caa ctt ttt atg gat cat tta ttt gct ggt gct gaa gtc att ctt ctg	287
Gln Leu Phe Met Asp His Leu Phe Ala Gly Ala Glu Val Ile Leu Leu	
80 85 90 95	
gtg gta atg gcc tat gat cga tac atg gcc atc tgt aag cct ctt cat	335
Val Val Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His	
100 105 110	
gaa ttg atc acc atg aat cgt cga gtc tgt gtt ctt atg ctg ttg gcg	383
Glu Leu Ile Thr Met Asn Arg Arg Val Cys Val Leu Met Leu Leu Ala	
115 120 125	
gcc tgg att gga ggc ttt ctt cac tca ttg gtt caa ttt ctc ttt att	431
Ala Trp Ile Gly Gly Phe Leu His Ser Leu Val Gln Phe Leu Phe Ile	
130 135 140	
tat cag ctc cct ttc tgt gga ccc aat gtc att gac aac ttc ctg tgt	479
Tyr Gln Leu Pro Phe Cys Gly Gly Pro Asn Val Ile Asp Asn Phe Leu Cys	
145 150 155	
gat ttg tat ccc tta ttg aaa ctt gct tgc acc aat acc tat gtc act	527
Asp Leu Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asn Thr Tyr Val Thr	
160 165 170 175	
ggg ctt tct atg ata gct aat gga gga gcg att tgt gct gtc acc ttc	575
Gly Leu Ser Met Ile Ala Asn Gly Gly Ala Ile Cys Ala Val Thr Phe	
180 185 190	
ttc act atc ctg ctt tcc tat ggg gcc ata tta cac tct ctt aag act	623
Phe Thr Ile Leu Leu Ser Tyr Gly Ala Ile Leu His Ser Leu Lys Thr	
195 200 205	
cag agt ttg gaa ggg aaa cga aaa gct ttc tac acc tgt gca tcc cac	671
Gln Ser Leu Glu Gly Lys Arg Lys Ala Phe Tyr Thr Cys Ala Ser His	
210 215 220	
gtc act gtg gtc att tta ttc ttt gtc ccc tgt atc ttc ttg tat gca	719
Val Thr Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr Ala	
225 230 235	
agg ccc aat tct act ttt ccc att gat aaa tcc atg act gta gtt cta	767

Arg Pro Asn Ser Thr Phe Pro Ile Asp Lys Ser Met Thr Val Val Leu
 240 245 250 255
 act ttt ata act ccc atg ctg aac cca cta atc tat acc ctg aag aat 815
 Thr Phe Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Lys Asn
 260 265 270
 gca gaa atg aaa agt gcc atg agg aaa ctt tgg agt aaa aaa gta agc 863
 Ala Glu Met Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Val Ser
 275 280 285
 tta gct ggg aaa tgg ctg tat cac tca tgagaat 897
 Leu Ala Gly Lys Trp Leu Tyr His Ser
 290 295

<210> 88
 <211> 296
 <212> PRT
 <213> Homo sapiens

<400> 88
 Pro Glu Gly Gln Lys Val Leu Phe Val Thr Phe Leu Leu Ile Tyr Met
 1 5 10 15
 Val Thr Ile Met Gly Asn Leu Leu Ile Ile Val Thr Ile Met Ala Ser
 20 25 30
 Gln Ser Leu Gly Ser Pro Met Tyr Phe Phe Leu Ala Ser Leu Ser Phe
 35 40 45
 Ile Asp Thr Val Tyr Ser Thr Ala Phe Ala Pro Lys Met Ile Val Asp
 50 55 60
 Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Gln Gly Cys Met Ala Gln
 65 70 75 80
 Leu Phe Met Asp His Leu Phe Ala Gly Ala Glu Val Ile Leu Leu Val
 85 90 95
 Val Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys Lys Pro Leu His Glu
 100 105 110
 Leu Ile Thr Met Asn Arg Arg Val Cys Val Leu Met Leu Leu Ala Ala
 115 120 125
 Trp Ile Gly Gly Phe Leu His Ser Leu Val Gln Phe Leu Phe Ile Tyr
 130 135 140
 Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp Asn Phe Leu Cys Asp
 145 150 155 160
 Leu Tyr Pro Leu Leu Lys Leu Ala Cys Thr Asn Thr Tyr Val Thr Gly
 165 170 175
 Leu Ser Met Ile Ala Asn Gly Gly Ala Ile Cys Ala Val Thr Phe Phe
 180 185 190

Thr Ile Leu Leu Ser Tyr Gly Ala Ile Leu His Ser Leu Lys Thr Gln
 195 200 205
 Ser Leu Glu Gly Lys Arg Lys Ala Phe Tyr Thr Cys Ala Ser His Val
 210 215 220
 Thr Val Val Ile Leu Phe Phe Val Pro Cys Ile Phe Leu Tyr Ala Arg
 225 230 235 240
 Pro Asn Ser Thr Phe Pro Ile Asp Lys Ser Met Thr Val Val Leu Thr
 245 250 255
 Phe Ile Thr Pro Met Leu Asn Pro Leu Ile Tyr Thr Leu Lys Asn Ala
 260 265 270
 Glu Met Lys Ser Ala Met Arg Lys Leu Trp Ser Lys Lys Val Ser Leu
 275 280 285
 Ala Gly Lys Trp Leu Tyr His Ser
 290 295

<210> 89
 <211> 989
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3)..(947)

<400> 89
 tg aag ata gca aac aac aca gta gtg aca gaa ttt atc ctc ctt ggt 47
 Lys Ile Ala Asn Asn Thr Val Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15
 ctg act cag tct caa gat att cag ctc ttg gtc ttt gtg ctg atc tta 95
 Leu Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Ile Leu
 20 25 30
 att ttc tac ctt atc atc ctc cct gga aat ttt ctc att att ttc acc 143
 Ile Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr
 35 40 45
 ata agg tca gac cct ggg ctc aca gcc ccc ctc tat tta ttt ctg ggc 191
 Ile Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly
 50 55 60
 aac ttg gcc ttc ctg gat gca tcc tac tcc ttc att gtg gct ccc agg 239
 Asn Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg
 65 70 75
 atg ttg gtg gac ttc ctc tct gag aag aag gca atc tcc tac aga ggc 287
 Met Leu Val Asp Phe Leu Ser Glu Lys Lys Ala Ile Ser Tyr Arg Gly
 80 85 90 95

tgc atc act cag ctc ttt ttc ttg cac ttc ctt gga gga ggg gag gga	335
Cys Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly	
100 105 110	
tta ctc ctt gtt gtg atg gcc ttt gac cgc tac atc gcc atc tgc cgg	383
Leu Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg	
115 120 125	
cct ctg cac tgt tca act gtc atg aac cct aga gcc tgc tat gca atg	431
Pro Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met	
130 135 140	
atg ttg gct ctg tgg ctt ggg ggt ttt gtc cac tcc att atc cag gtg	479
Met Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val	
145 150 155	
gtc ctc atc ctc cgc ttg cct ttt tgt ggc cca aac cag ctg gac aac	527
Val Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn	
160 165 170 175	
ttc ttc tgt gat gtc cga cag gtc atc aag ctg gct tgc acc gac atg	575
Phe Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met	
180 185 190	
ttt gtg gtg gag ctt ctg atg gtc ttc aac agt ggc ctg atg aca ctc	623
Phe Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu	
195 200 205	
ctg tgc ttt ctg ggg ctt ctg gct tcc tat gca gtc atc ctc tgc cat	671
Leu Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His	
210 215 220	
gtt cgt agg gca gct tct gaa ggg aag aac aag gcc atg tcc aca tgc	719
Val Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys	
225 230 235	
acc act cgt gtc att att ata ctt ctt atg ttt gga cct gct atc ttc	767
Thr Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe	
240 245 250 255	
atc tac atg tgc cct ttc agg gcc tta cca gct gac aag atg gtt tct	815
Ile Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser	
260 265 270	
ctc ttt cac aca gtg atc ttt cca ttg atg aat cct atg att tat acc	863
Leu Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr	
275 280 285	
ctt cgc aac cag gaa gtg aaa act tcc atg aag agg tta ttg agt cga	911
Leu Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg	
290 295 300	
cat gta gtc tgt caa gtg gat ttt ata ata aga aac tgagaaggag	957
His Val Val Cys Gln Val Asp Phe Ile Ile Arg Asn	
305 310 315	

gaattctggc tggaattcat atcattcatt ta

989

<210> 90

<211> 315

<212> PRT

<213> Homo sapiens

<400> 90

Lys Ile Ala Asn Asn Thr Val Val Thr Glu Phe Ile Leu Leu Gly Leu
1 5 10 15

Thr Gln Ser Gln Asp Ile Gln Leu Leu Val Phe Val Leu Ile Leu Ile
20 25 30

Phe Tyr Leu Ile Ile Leu Pro Gly Asn Phe Leu Ile Ile Phe Thr Ile
35 40 45

Arg Ser Asp Pro Gly Leu Thr Ala Pro Leu Tyr Leu Phe Leu Gly Asn
50 55 60

Leu Ala Phe Leu Asp Ala Ser Tyr Ser Phe Ile Val Ala Pro Arg Met
65 70 75 80

Leu Val Asp Phe Leu Ser Glu Lys Lys Ala Ile Ser Tyr Arg Gly Cys
85 90 95

Ile Thr Gln Leu Phe Phe Leu His Phe Leu Gly Gly Gly Glu Gly Leu
100 105 110

Leu Leu Val Val Met Ala Phe Asp Arg Tyr Ile Ala Ile Cys Arg Pro
115 120 125

Leu His Cys Ser Thr Val Met Asn Pro Arg Ala Cys Tyr Ala Met Met
130 135 140

Leu Ala Leu Trp Leu Gly Gly Phe Val His Ser Ile Ile Gln Val Val
145 150 155 160

Leu Ile Leu Arg Leu Pro Phe Cys Gly Pro Asn Gln Leu Asp Asn Phe
165 170 175

Phe Cys Asp Val Arg Gln Val Ile Lys Leu Ala Cys Thr Asp Met Phe
180 185 190

Val Val Glu Leu Leu Met Val Phe Asn Ser Gly Leu Met Thr Leu Leu
195 200 205

Cys Phe Leu Gly Leu Leu Ala Ser Tyr Ala Val Ile Leu Cys His Val
210 215 220

Arg Arg Ala Ala Ser Glu Gly Lys Asn Lys Ala Met Ser Thr Cys Thr
225 230 235 240

Thr Arg Val Ile Ile Ile Leu Leu Met Phe Gly Pro Ala Ile Phe Ile
245 250 255

Tyr Met Cys Pro Phe Arg Ala Leu Pro Ala Asp Lys Met Val Ser Leu
 260 265 270
 Phe His Thr Val Ile Phe Pro Leu Met Asn Pro Met Ile Tyr Thr Leu
 275 280 285
 Arg Asn Gln Glu Val Lys Thr Ser Met Lys Arg Leu Leu Ser Arg His
 290 295 300
 Val Val Cys Gln Val Asp Phe Ile Ile Arg Asn
 305 310 315

<210> 91
 <211> 963
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (2)..(955)

<400> 91

c atg gaa ggc aac cag aca tgg atc aca gac atc acc ctg ctg gga ttc 49
 Met Glu Gly Asn Gln Thr Trp Ile Thr Asp Ile Thr Leu Leu Gly Phe
 1 5 10 15
 cag gtt ggt cca gca ctg gcg att ctc ctc tgt gga ctc ttc tct gtc 97
 Gln Val Gly Pro Ala Leu Ala Ile Leu Leu Cys Gly Leu Phe Ser Val
 20 25 30
 ttc tat aca ctc acc ctg ctg ggg aat ggg gtc atc ttt ggg att atc 145
 Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
 35 40 45
 tgc ctg gac tct aag ctt cac aca ccc atg tac ttc ttc ctc tca cac 193
 Cys Leu Asp Ser Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60
 ctg gcc atc att gac atg tcc tat gct tcc aac aat gtt ccc aag atg 241
 Leu Ala Ile Ile Asp Met Ser Tyr Ala Ser Asn Asn Val Pro Lys Met
 65 70 75 80
 ttg gca aac cta atg aac cag aaa aga acc atc tcc ttt gtt cca tgc 289
 Leu Ala Asn Leu Met Asn Gln Lys Arg Thr Ile Ser Phe Val Pro Cys
 85 90 95
 ata atg cag act ttt ttg tat ttg gct ttt gct gtt aca gag tgc ctg 337
 Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala Val Thr Glu Cys Leu
 100 105 110
 att ttg gtg gtg atg tcc tat gat agg tat gtg gcc atc tgc cac cct 385
 Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Val Ala Ile Cys His Pro
 115 120 125
 ttc cag tac act gtc atc atg agc tgg aga gtg tgc acg atc ctg gtt 433

Phe	Gln	Tyr	Thr	Val	Ile	Met	Ser	Trp	Arg	Val	Cys	Thr	Ile	Leu	Val		
130						135					140						
ctc	acg	tcc	tgg	tca	tgt	ggg	ttt	gcc	ctg	tcc	ctg	gta	cat	gaa	att	481	
Leu	Thr	Ser	Trp	Ser	Cys	Gly	Phe	Ala	Leu	Ser	Leu	Val	His	Glu	Ile		
145					150					155					160		
ctc	ctt	cta	agg	ttg	ccc	ttc	tgt	ggg	ccc	cgg	gat	gtg	aac	cac	ctc	529	
Leu	Leu	Leu	Arg	Leu	Pro	Phe	Cys	Gly	Pro	Arg	Asp	Val	Asn	His	Leu		
				165					170					175			
ttc	tgt	gaa	att	ctg	tct	gtc	ctc	aag	ctg	gcc	tgt	gct	gac	acc	tgg	577	
Phe	Cys	Glu	Ile	Leu	Ser	Val	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	Trp		
			180					185						190			
gtt	aac	caa	gtg	gtc	ata	ttt	gct	acc	tgt	gtg	ttt	gtc	tta	gtc	ggg	625	
Val	Asn	Gln	Val	Val	Ile	Phe	Ala	Thr	Cys	Val	Phe	Val	Leu	Val	Gly		
		195					200					205					
cct	ctt	tcc	ttg	att	ctg	gtc	tcc	tac	atg	cac	atc	ctc	ggg	gcc	atc	673	
Pro	Leu	Ser	Leu	Ile	Leu	Val	Ser	Tyr	Met	His	Ile	Leu	Gly	Ala	Ile		
	210					215						220					
ctg	aag	atc	cag	aca	aag	gag	ggc	cgc	ata	aag	gcc	ttc	tcc	acc	tgc	721	
Leu	Lys	Ile	Gln	Thr	Lys	Glu	Gly	Arg	Ile	Lys	Ala	Phe	Ser	Thr	Cys		
225					230					235					240		
tcc	tcc	cac	ctg	tgt	gtg	gtt	gga	cta	ttc	ttt	ggc	ata	gcc	atg	gtg	769	
Ser	Ser	His	Leu	Cys	Val	Val	Gly	Leu	Phe	Phe	Gly	Ile	Ala	Met	Val		
				245					250					255			
gtt	tac	atg	gtc	cca	gac	tct	aat	caa	cga	gag	gag	cag	gag	aaa	atg	817	
Val	Tyr	Met	Val	Pro	Asp	Ser	Asn	Gln	Arg	Glu	Glu	Gln	Glu	Lys	Met		
			260					265						270			
ctg	tcc	ctg	ttt	cac	agt	gtc	ttg	aac	cca	atg	ctg	aac	ccc	ctg	atc	865	
Leu	Ser	Leu	Phe	His	Ser	Val	Leu	Asn	Pro	Met	Leu	Asn	Pro	Leu	Ile		
		275					280					285					
tac	agc	ctg	agg	aat	gct	cag	ttg	aag	ggc	gcc	ctc	cac	aga	gca	ctc	913	
Tyr	Ser	Leu	Arg	Asn	Ala	Gln	Leu	Lys	Gly	Ala	Leu	His	Arg	Ala	Leu		
	290					295					300						
cag	agg	aag	agg	tcc	atg	aga	acg	gtg	tat	ggg	ctt	tgc	ctt	taaaacat	963		
Gln	Arg	Lys	Arg	Ser	Met	Arg	Thr	Val	Tyr	Gly	Leu	Cys	Leu				
305					310					315							

<210> 92

<211> 318

<212> PRT

<213> Homo sapiens

<400> 92

Met	Glu	Gly	Asn	Gln	Thr	Trp	Ile	Thr	Asp	Ile	Thr	Leu	Leu	Gly	Phe
1				5					10					15	

<210> 93
 <211> 952
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (3) .. (932)

<400> 93
 ga atg ggg gac aac caa tca cgg gtc aca gaa ttc atc ctg gtt gga 47
 Met Gly Asp Asn Gln Ser Arg Val Thr Glu Phe Ile Leu Val Gly
 1 5 10 15

ttc cag ctc agt gtg gag atg gaa gtg ctc ctc ttc tgg atc ttc tcc 95
 Phe Gln Leu Ser Val Glu Met Glu Val Leu Leu Phe Trp Ile Phe Ser
 20 25 30

ctg tta tat ctc ttc agc ctg ctg gca aat ggc atg atc ttg ggg ctc 143
 Leu Leu Tyr Leu Phe Ser Leu Leu Ala Asn Gly Met Ile Leu Gly Leu
 35 40 45

atc tgt ctg gat ccc aga ctg cgc acc ccc atg tac ttc ttc ctg tca 191
 Ile Cys Leu Asp Pro Arg Leu Arg Thr Pro Met Tyr Phe Phe Leu Ser
 50 55 60

cac ttg gcc gtc att gac ata tac tat gct tcc agc aat ttg ctc aac 239
 His Leu Ala Val Ile Asp Ile Tyr Tyr Ala Ser Ser Asn Leu Leu Asn
 65 70 75

atg ctg gaa aac cta gtg aaa cac aaa aaa act atc tcg ttc atc tct 287
 Met Leu Glu Asn Leu Val Lys His Lys Lys Thr Ile Ser Phe Ile Ser
 80 85 90 95

tgc att atg cag atg gct ttg tat ttg act ttt gct gct gca gtg tgc 335
 Cys Ile Met Gln Met Ala Leu Tyr Leu Thr Phe Ala Ala Ala Val Cys
 100 105 110

atg att ttg gtg gtg atg tcc tat gac aga ttt gtg gcg atc tgc cat 383
 Met Ile Leu Val Val Met Ser Tyr Asp Arg Phe Val Ala Ile Cys His
 115 120 125

ccc ctg cat tac act gtc atc atg aac tgg aga gtg tgc aca gta ctg 431
 Pro Leu His Tyr Thr Val Ile Met Asn Trp Arg Val Cys Thr Val Leu
 130 135 140

gct att act tcc tgg gca tgt gga ttt tcc ctg gcc ctc ata aat cta 479
 Ala Ile Thr Ser Trp Ala Cys Gly Phe Ser Leu Ala Leu Ile Asn Leu
 145 150 155

att ctc ctt cta agg ctg ccc ttc tgt ggg ccc cag gag gtg aac cac 527
 Ile Leu Leu Leu Arg Leu Pro Phe Cys Gly Pro Gln Glu Val Asn His
 160 165 170 175

ttc ttc ggt gaa att ctg tct gtc ctc aaa ctg gcc tgt gca gac acc 575

Phe	Phe	Gly	Glu	Ile	Leu	Ser	Val	Leu	Lys	Leu	Ala	Cys	Ala	Asp	Thr	
				180					185					190		
tgg	att	aat	gaa	att	ttt	gtc	ttt	gct	ggg	ggg	gtg	ttt	gtc	tta	gtc	623
Trp	Ile	Asn	Glu	Ile	Phe	Val	Phe	Ala	Gly	Gly	Val	Phe	Val	Leu	Val	
			195					200					205			
ggg	ccc	ctt	tcc	ttg	atg	ctg	atc	tcc	tac	atg	cgc	atc	ctc	ttg	gcc	671
Gly	Pro	Leu	Ser	Leu	Met	Leu	Ile	Ser	Tyr	Met	Arg	Ile	Leu	Leu	Ala	
		210					215					220				
atc	ctg	aag	atc	cag	tca	aag	gag	ggc	cgc	aaa	aaa	gcc	ttt	tcc	acc	719
Ile	Leu	Lys	Ile	Gln	Ser	Lys	Glu	Gly	Arg	Lys	Lys	Ala	Phe	Ser	Thr	
	225					230					235					
tgc	tcc	tcc	cac	ctc	tgt	gtg	gtt	ggg	ctt	tac	ttt	ggc	atg	gcc	atg	767
Cys	Ser	Ser	His	Leu	Cys	Val	Val	Gly	Leu	Tyr	Phe	Gly	Met	Ala	Met	
240					245					250					255	
gtg	gtt	tac	ctg	gtc	cca	gac	aac	agt	caa	cga	cag	aag	cag	cag	aaa	815
Val	Val	Tyr	Leu	Val	Pro	Asp	Asn	Ser	Gln	Arg	Gln	Lys	Gln	Gln	Lys	
				260					265					270		
att	ctc	acc	ctg	ttt	tac	agc	ctt	ttc	aac	cca	ttg	ctg	aac	ccc	ctc	863
Ile	Leu	Thr	Leu	Phe	Tyr	Ser	Leu	Phe	Asn	Pro	Leu	Leu	Asn	Pro	Leu	
			275					280					285			
atc	tac	agc	ctg	cgg	aat	gct	caa	gtg	aag	ggg	gcc	tta	tac	aga	gca	911
Ile	Tyr	Ser	Leu	Arg	Asn	Ala	Gln	Val	Lys	Gly	Ala	Leu	Tyr	Arg	Ala	
		290				295						300				
ctg	cag	aaa	aag	agg	acc	atg	tgaatgagggg	gagaattttg								952
Leu	Gln	Lys	Lys	Arg	Thr	Met										
	305					310										

<210> 94
 <211> 310
 <212> PRT
 <213> Homo sapiens

<400> 94
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 1 5 10 15
 Gln Leu Ser Val Glu Met Glu Val Leu Leu Phe Trp Ile Phe Ser Leu
 20 25 30
 Leu Tyr Leu Phe Ser Leu Leu Ala Asn Gly Met Ile Leu Gly Leu Ile
 35 40 45
 Cys Leu Asp Pro Arg Leu Arg Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60
 Leu Ala Val Ile Asp Ile Tyr Tyr Ala Ser Ser Asn Leu Leu Asn Met
 65 70 75 80

tgatgtatgc tccatggagc ggggtcaatga gac tgt ggt gag aga ggt cat ctt	54
Asp Cys Gly Glu Arg Gly His Leu	
1 5	
cct cgg ctt tca tcc ctg gcc agg ctg cag cag ctg ctc ttt gtt atc	102
Pro Arg Leu Ser Ser Leu Ala Arg Leu Gln Gln Leu Leu Phe Val Ile	
10 15 20	
ttc ctg ctc ctc tac ctg ttc act ctg ggc acc aat gca atc atc att	150
Phe Leu Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile	
25 30 35 40	
tcc acc att gtc ctg gac agg gcc ctt cat atc ccc atg tac ttc ttc	198
Ser Thr Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe	
45 50 55	
ctt gcc atc ctc tct tgc tct gag att tgc tac acc ttc atc att gta	246
Leu Ala Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val	
60 65 70	
ccc aag atg ctg gtt gac ctg ctg tcc cag aag aag acc att tct ttc	294
Pro Lys Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe	
75 80 85	
ctg ggc tgt gcc atc caa atg ttt tcc ttc ctc ttc ctt ggc tgc tct	342
Leu Gly Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser	
90 95 100	
cac tcc ttt ctg ctg gca gtc atg ggt tat gat cgt tac ata gcc atc	390
His Ser Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile	
105 110 115 120	
tgt aac cca ctg cgc tac tca gtg cta atg gga cat ggg gtg tgt atg	438
Cys Asn Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met	
125 130 135	
gga cta gtg gct gct gcc tgt gcc tgt ggc ttc act gtt gca cag atc	486
Gly Leu Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile	
140 145 150	
atc aca tcc ttg gta ttt cac ctg cct ttt tat tcc tcc aat caa cta	534
Ile Thr Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu	
155 160 165	
cat cac ttc ttc tgt gac att gct cct gtc ctc aag ctg gca tct cac	582
His His Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His	
170 175 180	
cat aac cac ttt agt cag att gtc atc ttc atg ctc tgt aca ttg gtc	630
His Asn His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val	
185 190 195 200	
ctg gct atc ccc tta ttg ttg atc ttg gtg tcc tat gtt cac atc ctc	678
Leu Ala Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu	
205 210 215	
tct gcc ata ctt cag ttt cct tcc aca ctg ggt agg tgc aaa gct ttt	726

Ser Ala Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe
220 225 230

tct acc tgt gta tct cac ctc att att gtc act gtc cac tat ggc tgt 774
Ser Thr Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys
235 240 245

gcc tcc ttt atc tac tta agg cct cag tcc aac tac tcc tca agc cag 822
Ala Ser Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln
250 255 260

gat gct cta ata tca gta tcc tac act att ata act cca ttg ttc aac 870
Asp Ala Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn
265 270 275 280

cca atg att tat agc ttg aga aat aaa gag ttc aaa tca gct ctt tgt 918
Pro Met Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys
285 290 295

aaa att gtg aga aga aca att tcc ctg ttg taaaattaat cttgattctg 968
Lys Ile Val Arg Arg Thr Ile Ser Leu Leu
300 305

gccag 973

<210> 96
<211> 306
<212> PRT
<213> Homo sapiens

<400> 96
Asp Cys Gly Glu Arg Gly His Leu Pro Arg Leu Ser Ser Leu Ala Arg
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20 25 30

Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr Ile Val Leu Asp Arg Ala
35 40 45

Leu His Ile Pro Met Tyr Phe Phe Leu Ala Ile Leu Ser Cys Ser Glu
50 55 60

Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys Met Leu Val Asp Leu Leu
65 70 75 80

Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly Cys Ala Ile Gln Met Phe
85 90 95

Ser Phe Leu Phe Leu Gly Cys Ser His Ser Phe Leu Leu Ala Val Met
100 105 110

Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn Pro Leu Arg Tyr Ser Val
115 120 125

Leu Met Gly His Gly Val Cys Met Gly Leu Val Ala Ala Ala Cys Ala

130	135	140
Cys Gly Phe Thr Val	Ala Gln Ile Ile Thr	Ser Leu Val Phe His Leu
145	150	155 160
Pro Phe Tyr Ser Ser	Asn Gln Leu His His	Phe Phe Cys Asp Ile Ala
	165	170 175
Pro Val Leu Lys Leu	Ala Ser His His	Asn His Phe Ser Gln Ile Val
	180	185 190
Ile Phe Met Leu Cys	Thr Leu Val Leu	Ala Ile Pro Leu Leu Ile
	195	200 205
Leu Val Ser Tyr Val	His Ile Leu Ser	Ala Ile Leu Gln Phe Pro Ser
	210	215 220
Thr Leu Gly Arg Cys	Lys Ala Phe Ser	Thr Cys Val Ser His Leu Ile
	225	230 235 240
Ile Val Thr Val	His Tyr Gly Cys	Ala Ser Phe Ile Tyr Leu Arg Pro
	245	250 255
Gln Ser Asn Tyr Ser	Ser Ser Gln Asp	Ala Leu Ile Ser Val Ser Tyr
	260	265 270
Thr Ile Ile Thr	Pro Leu Phe Asn	Pro Met Ile Tyr Ser Leu Arg Asn
	275	280 285
Lys Glu Phe Lys Ser	Ala Leu Cys Lys	Ile Val Arg Arg Thr Ile Ser
	290	295 300
Leu Leu		
305		

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 <211> 997
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (37)..(972)

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	Met Glu Arg Val Asn Glu
	1 5
act gtg gtg aga gag gtc atc ttc ctc ggc ttc tca tcc ctg gcc agg	102
Thr Val Val Arg Glu Val Ile Phe Leu Gly Phe Ser Ser Leu Ala Arg	
	10 15 20
ctg cag cag ctg ctc ttt gtt atc ttc ctg ctc ctc tac ctg ttc act	150
Leu Gln Gln Leu Leu Phe Val Ile Phe Leu Leu Tyr Leu Phe Thr	

25					30					35						
ctg	ggc	acc	aat	gca	atc	atc	att	tcc	acc	att	gtc	ctg	gac	agg	gcc	198
Leu	Gly	Thr	Asn	Ala	Ile	Ile	Ile	Ser	Thr	Ile	Val	Leu	Asp	Arg	Ala	
	40					45					50					
ctt	cat	atc	ccc	atg	tac	ttc	ttc	ctt	gcc	atc	ctc	tct	tgc	tct	gag	246
Leu	His	Ile	Pro	Met	Tyr	Phe	Phe	Leu	Ala	Ile	Leu	Ser	Cys	Ser	Glu	
	55				60				65						70	
att	tgc	tac	acc	ttc	atc	att	gta	ccc	aag	atg	ctg	gtt	gac	ctg	ctg	294
Ile	Cys	Tyr	Thr	Phe	Ile	Ile	Val	Pro	Lys	Met	Leu	Val	Asp	Leu	Leu	
				75				80					85			
tcc	cag	aag	aag	acc	att	tct	ttc	ctg	ggc	tgt	gcc	atc	caa	atg	ttt	342
Ser	Gln	Lys	Lys	Thr	Ile	Ser	Phe	Leu	Gly	Cys	Ala	Ile	Gln	Met	Phe	
			90					95					100			
tcc	ttc	ctc	ttc	ctt	ggc	tgc	tct	cac	tcc	ttt	ctg	ctg	gca	gtc	atg	390
Ser	Phe	Leu	Phe	Leu	Gly	Cys	Ser	His	Ser	Phe	Leu	Leu	Ala	Val	Met	
		105					110					115				
ggc	tat	gat	cgt	tac	ata	gcc	atc	tgt	aac	cca	ctg	cgc	tac	tca	gtg	438
Gly	Tyr	Asp	Arg	Tyr	Ile	Ala	Ile	Cys	Asn	Pro	Leu	Arg	Tyr	Ser	Val	
	120					125					130					
cta	atg	gga	cat	ggg	gtg	tgt	atg	gga	cta	gtg	gct	gct	gcc	tgt	gcc	486
Leu	Met	Gly	His	Gly	Val	Cys	Met	Gly	Leu	Val	Ala	Ala	Ala	Cys	Ala	
	135				140					145					150	
tgt	ggc	ttc	act	gtt	gca	cag	atc	atc	aca	tcc	ttg	gta	ttt	cac	ctg	534
Cys	Gly	Phe	Thr	Val	Ala	Gln	Ile	Ile	Thr	Ser	Leu	Val	Phe	His	Leu	
				155					160					165		
cct	ttt	tat	tcc	tcc	aat	caa	cta	cat	cac	ttc	ttc	tgt	gac	att	gct	582
Pro	Phe	Tyr	Ser	Ser	Asn	Gln	Leu	His	His	Phe	Phe	Cys	Asp	Ile	Ala	
			170					175					180			
cct	gtc	ctc	aag	ctg	gca	tct	cac	cat	aac	cac	ttt	agt	cag	att	gtc	630
Pro	Val	Leu	Lys	Leu	Ala	Ser	His	His	Asn	His	Phe	Ser	Gln	Ile	Val	
		185					190					195				
atc	ttc	atg	ctc	tgt	aca	ttg	gtc	ctg	gct	atc	ccc	tta	ttg	ttg	atc	678
Ile	Phe	Met	Leu	Cys	Thr	Leu	Val	Leu	Ala	Ile	Pro	Leu	Leu	Leu	Ile	
	200					205					210					
ttg	gtg	tcc	tat	gtt	cac	atc	ctc	tct	gcc	ata	ctt	cag	ttt	cct	tcc	726
Leu	Val	Ser	Tyr	Val	His	Ile	Leu	Ser	Ala	Ile	Leu	Gln	Phe	Pro	Ser	
	215				220					225					230	
aca	ctg	ggc	agg	tgc	aaa	gct	ttt	tct	acc	tgt	gta	tct	cac	ctc	att	774
Thr	Leu	Gly	Arg	Cys	Lys	Ala	Phe	Ser	Thr	Cys	Val	Ser	His	Leu	Ile	
			235					240					245			
att	gtc	act	gtc	cac	tat	ggc	tgt	gcc	tcc	ttt	atc	tac	tta	agg	cct	822
Ile	Val	Thr	Val	His	Tyr	Gly	Cys	Ala	Ser	Phe	Ile	Tyr	Leu	Arg	Pro	
			250				255						260			

cag tcc aac tac tcc tca agc cag gat gct cta ata tca gta tcc tac 870
 Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala Leu Ile Ser Val Ser Tyr
 265 270 275
 act att ata act cca ttg ttc aac cca atg att tat agc ttg aga aat 918
 Thr Ile Ile Thr Pro Leu Phe Asn Pro Met Ile Tyr Ser Leu Arg Asn
 280 285 290
 aaa gag ttc aaa tca gct ctt tgt aaa att gtg aga aga aca att tcc 966
 Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile Val Arg Arg Thr Ile Ser
 295 300 305 310
 ctg ttg taaaattaat cttgattctg gccag 997
 Leu Leu

<210> 98
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 98
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 20 25 30
 Leu Leu Tyr Leu Phe Thr Leu Gly Thr Asn Ala Ile Ile Ile Ser Thr
 35 40 45
 Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala
 50 55 60
 Ile Leu Ser Cys Ser Glu Ile Cys Tyr Thr Phe Ile Ile Val Pro Lys
 65 70 75 80
 Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly
 85 90 95
 Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser
 100 105 110
 Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn
 115 120 125
 Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu
 130 135 140
 Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr
 145 150 155 160
 Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His
 165 170 175
 Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn

180	185	190
His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala		
195	200	205
Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala		
210	215	220
Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr		
225	230	235
Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser		
245	250	255
Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala		
260	265	270
Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met		
275	280	285
Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile		
290	295	300
Val Arg Arg Thr Ile Ser Leu Leu		
305	310	

<210> 99
 <211> 1026
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (34)..(1005)

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Met Phe Tyr Phe Phe Pro Pro
1 5

ttg cag atc ttg gca gaa aac ctc acc atg gtc acc gaa ttc ctg ttg 102
 Leu Gln Ile Leu Ala Glu Asn Leu Thr Met Val Thr Glu Phe Leu Leu
10 15 20

ctg ggt ttt tcc agc ctt ggt gaa att cag ctg gcc ctc ttt gta gtt 150
 Leu Gly Phe Ser Ser Leu Gly Glu Ile Gln Leu Ala Leu Phe Val Val
25 30 35

ttt ctt ttt ctg tat cta gtc att ctt agt ggc aat gtc acc att atc 198
 Phe Leu Phe Leu Tyr Leu Val Ile Leu Ser Gly Asn Val Thr Ile Ile
40 45 50 55

agt gtc atc cac ctg gat aaa agc ctc cac aca cca atg tac ttc ttc 246
 Ser Val Ile His Leu Asp Lys Ser Leu His Thr Pro Met Tyr Phe Phe
60 65 70

ctt ggc att ctc tca aca tct gag acc ttc tac acc ttt gtc att cta	294
Leu Gly Ile Leu Ser Thr Ser Glu Thr Phe Tyr Thr Phe Val Ile Leu	
75 80 85	
ccc aag atg ctc atc aat cta ctt tct gtg gcc agg aca atc tcc ttc	342
Pro Lys Met Leu Ile Asn Leu Leu Ser Val Ala Arg Thr Ile Ser Phe	
90 95 100	
aac tgt tgt gct ctt caa atg ttc ttc ttc ctt ggt ttt gcc att acc	390
Asn Cys Cys Ala Leu Gln Met Phe Phe Phe Leu Gly Phe Ala Ile Thr	
105 110 115	
aac tgc ctg cta ttg ggt gtg atg ggt tat gat cgc tat gct gcc att	438
Asn Cys Leu Leu Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala Ala Ile	
120 125 130 135	
tgt cac cct ctg cat tac ccc act ctt atg agc tgg cag gtg tgt gga	486
Cys His Pro Leu His Tyr Pro Thr Leu Met Ser Trp Gln Val Cys Gly	
140 145 150	
aaa ctg gca gct gcc tgt gca att ggt ggc ttc ttg gcc tct ctt aca	534
Lys Leu Ala Ala Ala Cys Ala Ile Gly Gly Phe Leu Ala Ser Leu Thr	
155 160 165	
gta gta aat tta gtt ttc agc ctc cct ttt tgt agc gcc aac aaa gtc	582
Val Val Asn Leu Val Phe Ser Leu Pro Phe Cys Ser Ala Asn Lys Val	
170 175 180	
aat cat tac ttc tgt gac atc tca gca gtc att ctt ctg gct tgt acc	630
Asn His Tyr Phe Cys Asp Ile Ser Ala Val Ile Leu Leu Ala Cys Thr	
185 190 195	
aac aca gat gtt aac gaa ttt gtg ata ttc att tgt gga gtt ctt gta	678
Asn Thr Asp Val Asn Glu Phe Val Ile Phe Ile Cys Gly Val Leu Val	
200 205 210 215	
ctt gtg gtt ccc ttt ctg ttt atc tgt gtt tct tat ctc tgc att ctg	726
Leu Val Val Pro Phe Leu Phe Ile Cys Val Ser Tyr Leu Cys Ile Leu	
220 225 230	
agg act atc ctg aag att ccc tca gct gag ggc aga cgg aaa gcg ttt	774
Arg Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Arg Lys Ala Phe	
235 240 245	
tcc acc tgc gcc tct cac ctc agt gtt gtt att gtt cat tat ggc tgt	822
Ser Thr Cys Ala Ser His Leu Ser Val Val Ile Val His Tyr Gly Cys	
250 255 260	
gct tcc ttc atc tac ctg agg cct aca gca aac tat gtg tcc aac aaa	870
Ala Ser Phe Ile Tyr Leu Arg Pro Thr Ala Asn Tyr Val Ser Asn Lys	
265 270 275	
gac agg ctg gtg acg gtg aca tac acg att gtc act cca tta cta aac	918
Asp Arg Leu Val Thr Val Thr Tyr Thr Ile Val Thr Pro Leu Leu Asn	
280 285 290 295	

ccc atg gtt tat agc ctc aga aac aag gat gtc caa ctt gct atc aga 966
Pro Met Val Tyr Ser Leu Arg Asn Lys Asp Val Gln Leu Ala Ile Arg
300 305 310

aaa gtg ttg ggc aag aaa ggt tct cta aaa cta tat aat tgaaatatta 1015
Lys Val Leu Gly Lys Lys Gly Ser Leu Lys Leu Tyr Asn
315 320

ttacatttta g 1026

<210> 100
<211> 324
<212> PRT
<213> Homo sapiens

<400> 100
Met Phe Tyr Phe Phe Pro Pro Leu Gln Ile Leu Ala Glu Asn Leu Thr
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Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser Ser Leu Gly Glu Ile
20 25 30
Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu
35 40 45
Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu
50 55 60
His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr
65 70 75 80
Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser
85 90 95
Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe
100 105 110
Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly
115 120 125
Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu
130 135 140
Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly
145 150 155 160
Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro
165 170 175
Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala
180 185 190
Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile
195 200 205
Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys

210	215	220
Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala		
225	230	235 240
Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val		
	245	250 255
Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr		
	260	265 270
Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr		
	275	280 285
Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys		
	290	295 300
Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ser Leu		
305	310	315 320
Lys Leu Tyr Asn		

<210> 101
 <211> 968
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (5) .. (964)

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 Met Pro Ser Ala Ser Ala Met Ile Ile Phe Asn Leu Ser Ser Tyr
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 aat cca gga ccc ttc att ctg gta ggg atc cca ggc ctg gag caa ttc 97
 Asn Pro Gly Pro Phe Ile Leu Val Gly Ile Pro Gly Leu Glu Gln Phe
 20 25 30
 cat gtg tgg att gga att ccc ttc tgt atc atc tac att gta gct att 145
 His Val Trp Ile Gly Ile Pro Phe Cys Ile Ile Tyr Ile Val Ala Ile
 35 40 45
 gtg gga aac tgc atc ctt ctc tac ctc att gtg gtg gag cat agt ctt 193
 Val Gly Asn Cys Ile Leu Leu Tyr Leu Ile Val Val Glu His Ser Leu
 50 55 60
 cat gaa ccc atg ttc ttc ttt ctc tcc atg ctg gcc atg act gac ctc 241
 His Glu Pro Met Phe Phe Phe Leu Ser Met Leu Ala Met Thr Asp Leu
 65 70 75
 atc ttg tcc aca gct ggt gtg cct aaa gca ctc agt atc ttt tgg cta 289
 Ile Leu Ser Thr Ala Gly Val Pro Lys Ala Leu Ser Ile Phe Trp Leu

80	85	90	95	
ggg gct cgc gaa atc aca ttc cca gga tgc ctt aca caa atg ttc ttc				337
Gly Ala Arg Glu Ile Thr Phe Pro Gly Cys Leu Thr Gln Met Phe Phe				
	100	105	110	
ctt cac tat aac ttt gtc ctg gat tca gcc att ctg atg gcc atg gca				385
Leu His Tyr Asn Phe Val Leu Asp Ser Ala Ile Leu Met Ala Met Ala				
	115	120	125	
ttt gat cac tat gta gct atc tgt tct ccc ttg aga tat acc acc atc				433
Phe Asp His Tyr Val Ala Ile Cys Ser Pro Leu Arg Tyr Thr Thr Ile				
	130	135	140	
ttg act ccc aag acc atc atc aag agt gct atg gcc atc tcc ttt cga				481
Leu Thr Pro Lys Thr Ile Ile Lys Ser Ala Met Gly Ile Ser Phe Arg				
	145	150	155	
agc ttc tgc atc atc ctg cca gat gta ttc ttg ctg aca tgc ctg cct				529
Ser Phe Cys Ile Ile Leu Pro Asp Val Phe Leu Leu Thr Cys Leu Pro				
	160	165	170	175
ttc tgc agg aca cgc atc ata ccc cac aca tac tgt gag cat ata ggt				577
Phe Cys Arg Thr Arg Ile Ile Pro His Thr Tyr Cys Glu His Ile Gly				
	180	185	190	
gtt gcc cag ctc gcc tgt gct gat atc tcc atc aac ttc tgg tat ggc				625
Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Phe Trp Tyr Gly				
	195	200	205	
ttt tgt gtt ccc atc atg acg gtc atc tca gat gtg att ctc att gct				673
Phe Cys Val Pro Ile Met Thr Val Ile Ser Asp Val Ile Leu Ile Ala				
	210	215	220	
gtt tcc tac gca cac atc ctc tgt gct gtc ttt ggc ctt ccc tcc caa				721
Val Ser Tyr Ala His Ile Leu Cys Ala Val Phe Gly Leu Pro Ser Gln				
	225	230	235	
gat gcc tgc cag aaa gcc ctc gcc act tgt ggt tct cat gtc tgt gtc				769
Asp Ala Cys Gln Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys Val				
	240	245	250	255
atc ctc atg ttt tat aca cct gcc ttt ttc tcc atc ctc gcc cat cgc				817
Ile Leu Met Phe Tyr Thr Pro Ala Phe Phe Ser Ile Leu Ala His Arg				
	260	265	270	
ttt gga cac aat gtc tct cgc acc ttc cac atc atg ttt gcc aat ctc				865
Phe Gly His Asn Val Ser Arg Thr Phe His Ile Met Phe Ala Asn Leu				
	275	280	285	
tac att gtt atc cca cct gca ctc aac ccc atg gtt tac gga gtg aag				913
Tyr Ile Val Ile Pro Pro Ala Leu Asn Pro Met Val Tyr Gly Val Lys				
	290	295	300	
acc aag cag atc aga gat aag gtt ata ctt ttg ttt tct aag ggt aca				961
Thr Lys Gln Ile Arg Asp Lys Val Ile Leu Leu Phe Ser Lys Gly Thr				
	305	310	315	

gga tgat
Gly
320

968

<210> 102
<211> 320
<212> PRT
<213> Homo sapiens

<400> 102

Met Pro Ser Ala Ser Ala Met Ile Ile Phe Asn Leu Ser Ser Tyr Asn
1 5 10 15

Pro Gly Pro Phe Ile Leu Val Gly Ile Pro Gly Leu Glu Gln Phe His
20 25 30

Val Trp Ile Gly Ile Pro Phe Cys Ile Ile Tyr Ile Val Ala Ile Val
35 40 45

Gly Asn Cys Ile Leu Leu Tyr Leu Ile Val Val Glu His Ser Leu His
50 55 60

Glu Pro Met Phe Phe Phe Leu Ser Met Leu Ala Met Thr Asp Leu Ile
65 70 75 80

Leu Ser Thr Ala Gly Val Pro Lys Ala Leu Ser Ile Phe Trp Leu Gly
85 90 95

Ala Arg Glu Ile Thr Phe Pro Gly Cys Leu Thr Gln Met Phe Phe Leu
100 105 110

His Tyr Asn Phe Val Leu Asp Ser Ala Ile Leu Met Ala Met Ala Phe
115 120 125

Asp His Tyr Val Ala Ile Cys Ser Pro Leu Arg Tyr Thr Thr Ile Leu
130 135 140

Thr Pro Lys Thr Ile Ile Lys Ser Ala Met Gly Ile Ser Phe Arg Ser
145 150 155 160

Phe Cys Ile Ile Leu Pro Asp Val Phe Leu Leu Thr Cys Leu Pro Phe
165 170 175

Cys Arg Thr Arg Ile Ile Pro His Thr Tyr Cys Glu His Ile Gly Val
180 185 190

Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Phe Trp Tyr Gly Phe
195 200 205

Cys Val Pro Ile Met Thr Val Ile Ser Asp Val Ile Leu Ile Ala Val
210 215 220

Ser Tyr Ala His Ile Leu Cys Ala Val Phe Gly Leu Pro Ser Gln Asp
225 230 235 240

Ala Cys Gln Lys Ala Leu Gly Thr Cys Gly Ser His Val Cys Val Ile
245 250 255

Leu Met Phe Tyr Thr Pro Ala Phe Phe Ser Ile Leu Ala His Arg Phe
260 265 270

Gly His Asn Val Ser Arg Thr Phe His Ile Met Phe Ala Asn Leu Tyr
275 280 285

Ile Val Ile Pro Pro Ala Leu Asn Pro Met Val Tyr Gly Val Lys Thr
290 295 300

Lys Gln Ile Arg Asp Lys Val Ile Leu Leu Phe Ser Lys Gly Thr Gly
305 310 315 320

<210> 103
<211> 1001
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (28)..(942)

<400> 103
gaatcaacga gtgaaacgaa taactct atg gtg act gaa ttc att ttt ctg ggt 54
Met Val Thr Glu Phe Ile Phe Leu Gly
1 5

ctc tct gat tct cag gaa ctc cag acc ttc cta ttt atg ttg ttt ttt 102
Leu Ser Asp Ser Gln Glu Leu Gln Thr Phe Leu Phe Met Leu Phe Phe
10 15 20 25

gta ttc tat gga gga atc gtg ttt gga aac ctt ctt att gtc ata aca 150
Val Phe Tyr Gly Gly Ile Val Phe Gly Asn Leu Leu Ile Val Ile Thr
30 35 40

gtg gta tct gac tcc cac ctt cac tct ccc atg tac tcc ctg cta gcc 198
Val Val Ser Asp Ser His Leu His Ser Pro Met Tyr Ser Leu Leu Ala
45 50 55

aac ctc tca ctc att gat ctg tct ctg tct tca gtc aca gcc ccc aag 246
Asn Leu Ser Leu Ile Asp Leu Ser Leu Ser Ser Val Thr Ala Pro Lys
60 65 70

atg att act gac ttt ttc agc cag cgc aaa gtc atc tct ttc aag ggc 294
Met Ile Thr Asp Phe Phe Ser Gln Arg Lys Val Ile Ser Phe Lys Gly
75 80 85

tgc ctt gtt cag ata ttt ctc ctt cac ttc ttt ggt ggg ggt gag atg 342
Cys Leu Val Gln Ile Phe Leu Leu His Phe Phe Gly Gly Gly Glu Met
90 95 100 105

gtg atc ctc ata gcc atg ggc ttt gac aga tat ata gca ata tgc aag 390
Val Ile Leu Ile Ala Met Gly Phe Asp Arg Tyr Ile Ala Ile Cys Lys

110										115					120					
ccc	cta	cac	tac	act	aca	att	atg	tgt	ggc	aac	gca	tgt	gtc	ggc	att	438				
Pro	Leu	His	Tyr	Thr	Thr	Ile	Met	Cys	Gly	Asn	Ala	Cys	Val	Gly	Ile					
			125						130					135						
atg	gct	gtc	gca	tgg	gga	att	ggc	ttt	ctc	cat	tcg	gtg	agc	cag	ttg	486				
Met	Ala	Val	Ala	Trp	Gly	Ile	Gly	Phe	Leu	His	Ser	Val	Ser	Gln	Leu					
		140					145					150								
gcc	ttt	gcc	gtg	cac	tta	ctc	ttc	tgt	ggg	ccc	aat	gag	gtc	gat	agt	534				
Ala	Phe	Ala	Val	His	Leu	Leu	Phe	Cys	Gly	Pro	Asn	Glu	Val	Asp	Ser					
	155					160					165									
ttt	tat	tgt	gac	ctt	cct	agg	gta	atc	aaa	ctt	gcc	tgt	aca	gat	acc	582				
Phe	Tyr	Cys	Asp	Leu	Pro	Arg	Val	Ile	Lys	Leu	Ala	Cys	Thr	Asp	Thr					
170					175					180					185					
tac	agg	cta	gat	att	atg	gtc	att	gct	aac	agt	ggg	gtg	ctc	act	gtg	630				
Tyr	Arg	Leu	Asp	Ile	Met	Val	Ile	Ala	Asn	Ser	Gly	Val	Leu	Thr	Val					
				190					195					200						
tgt	tct	ttt	gtt	ctt	cta	atc	atc	tca	tac	act	atc	atc	cta	atg	acc	678				
Cys	Ser	Phe	Val	Leu	Leu	Ile	Ile	Ser	Tyr	Thr	Ile	Ile	Leu	Met	Thr					
			205					210					215							
atc	cag	cat	cgc	cct	tta	gat	aag	tcg	tcc	aaa	gct	ctg	tcc	act	ttg	726				
Ile	Gln	His	Arg	Pro	Leu	Asp	Lys	Ser	Ser	Lys	Ala	Leu	Ser	Thr	Leu					
		220					225					230								
act	gct	cac	att	aca	gta	gtt	ctt	ttg	ttc	ttt	gga	cca	tgt	gtc	ttt	774				
Thr	Ala	His	Ile	Thr	Val	Val	Leu	Leu	Phe	Phe	Gly	Pro	Cys	Val	Phe					
	235					240					245									
att	tat	gcc	tgg	cca	ttc	ccc	atc	aag	tca	tta	gat	aaa	ttc	ctt	gct	822				
Ile	Tyr	Ala	Trp	Pro	Phe	Pro	Ile	Lys	Ser	Leu	Asp	Lys	Phe	Leu	Ala					
250					255					260				265						
gta	ttt	tat	tcc	gtg	atc	acc	cct	ctc	ttg	aac	cca	att	ata	tac	aca	870				
Val	Phe	Tyr	Ser	Val	Ile	Thr	Pro	Leu	Leu	Asn	Pro	Ile	Ile	Tyr	Thr					
				270					275					280						
ctg	agg	aac	aaa	gac	atg	aag	acg	gca	ata	aga	cag	ctg	aga	aaa	tgg	918				
Leu	Arg	Asn	Lys	Asp	Met	Lys	Thr	Ala	Ile	Arg	Gln	Leu	Arg	Lys	Trp					
			285					290					295							
gat	gca	cat	tct	agt	gta	aag	ttt	tagatcttat	ataactgtga	gattaatctc						972				
Asp	Ala	His	Ser	Ser	Val	Lys	Phe													
		300					305													
agataatgac	acaaaatata	gtgaagttg														1001				

<210> 104
 <211> 305
 <212> PRT
 <213> Homo sapiens

<400> 104

Met Val Thr Glu Phe Ile Phe Leu Gly Leu Ser Asp Ser Gln Glu Leu
1 5 10 15

Gln Thr Phe Leu Phe Met Leu Phe Phe Val Phe Tyr Gly Gly Ile Val
20 25 30

Phe Gly Asn Leu Leu Ile Val Ile Thr Val Val Ser Asp Ser His Leu
35 40 45

His Ser Pro Met Tyr Ser Leu Leu Ala Asn Leu Ser Leu Ile Asp Leu
50 55 60

Ser Leu Ser Ser Val Thr Ala Pro Lys Met Ile Thr Asp Phe Phe Ser
65 70 75 80

Gln Arg Lys Val Ile Ser Phe Lys Gly Cys Leu Val Gln Ile Phe Leu
85 90 95

Leu His Phe Phe Gly Gly Gly Glu Met Val Ile Leu Ile Ala Met Gly
100 105 110

Phe Asp Arg Tyr Ile Ala Ile Cys Lys Pro Leu His Tyr Thr Thr Ile
115 120 125

Met Cys Gly Asn Ala Cys Val Gly Ile Met Ala Val Ala Trp Gly Ile
130 135 140

Gly Phe Leu His Ser Val Ser Gln Leu Ala Phe Ala Val His Leu Leu
145 150 155 160

Phe Cys Gly Pro Asn Glu Val Asp Ser Phe Tyr Cys Asp Leu Pro Arg
165 170 175

Val Ile Lys Leu Ala Cys Thr Asp Thr Tyr Arg Leu Asp Ile Met Val
180 185 190

Ile Ala Asn Ser Gly Val Leu Thr Val Cys Ser Phe Val Leu Leu Ile
195 200 205

Ile Ser Tyr Thr Ile Ile Leu Met Thr Ile Gln His Arg Pro Leu Asp
210 215 220

Lys Ser Ser Lys Ala Leu Ser Thr Leu Thr Ala His Ile Thr Val Val
225 230 235 240

Leu Leu Phe Phe Gly Pro Cys Val Phe Ile Tyr Ala Trp Pro Phe Pro
245 250 255

Ile Lys Ser Leu Asp Lys Phe Leu Ala Val Phe Tyr Ser Val Ile Thr
260 265 270

Pro Leu Leu Asn Pro Ile Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys
275 280 285

Thr Ala Ile Arg Gln Leu Arg Lys Trp Asp Ala His Ser Ser Val Lys

290 295 300

Phe
305

<210> 105
<211> 984
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (12)..(956)

<400> 105
gggtggccgc c atg cag ggg cta aac cac acc tcc gtg tct gaa ttc atc 50
Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile
1 5 10

ctc gtt ggc ttc tct gcc ttc ccc cac ctc cag ctg atg ctc ttc ctg 98
Leu Val Gly Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu
15 20 25

ctg ttc ctg ctg atg tac ctg ttc acg ctg ctg ggc aac ctg ctc atc 146
Leu Phe Leu Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile
30 35 40 45

atg gcc act gtc tgg agc gag cgc agc ctc cac atg ccc atg tac ctc 194
Met Ala Thr Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu
50 55 60

ttc ctg tgt gcc ctc tcc atc acc gag atc ctc tac acc gtg gcc atc 242
Phe Leu Cys Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile
65 70 75

atc ccg cgc atg ctg gcc gac ctg ctg tcc acc cag cgc tcc atc gcc 290
Ile Pro Arg Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala
80 85 90

ttc ctg gcc tgt gcc agt cag atg ttc ttc tcc ttc agc ttc ggc ttc 338
Phe Leu Ala Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe
95 100 105

acc cac tcc ttc ctg ccc act gtc atg ggc tac gac cgc tac gtg gcc 386
Thr His Ser Phe Leu Pro Thr Val Met Gly Tyr Asp Arg Tyr Val Ala
110 115 120 125

atc tgc cac ccc ctg cgt tac aac gtg ctc atg agc ctg cgg ggc tgc 434
Ile Cys His Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys
130 135 140

acc tgc cgg gtg ggc tgc tcc tgg gct ggt ggc ttg gtc atg ggg atg 482
Thr Cys Arg Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met
145 150 155

gtg gtg acc tog gcc att ttc cac ctc gcc ttc tgt gga cac aag gag 530
 Val Val Thr Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu
 160 165 170

atc cac cat ttc ttc tgc cac gtg cca cct ctg ttg aag ttg gcc tgt 578
 Ile His His Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys
 175 180 185

gga gat gat gtg ctg gtg gtg gcc aaa ggc gtg ggc ttg gtg tgt atc 626
 Gly Asp Asp Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile
 190 195 200 205

acg gcc ctg ctg ggc tgt ttt ctc ctc atc ctc ctc tcc tat gcc ttc 674
 Thr Ala Leu Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe
 210 215 220

atc gtg gcc gcc atc ttg aag atc cct tct gct gaa ggt cgg aac aag 722
 Ile Val Ala Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys
 225 230 235

gcc ttc tcc acc tgt gcc tct cac ctc act gtg gtg gtc gtg cac tat 770
 Ala Phe Ser Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr
 240 245 250

ggc ttt gcc tcc gtc att tac ctg aag ccc aaa ggt ccc cag tat ccg 818
 Gly Phe Ala Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Tyr Pro
 255 260 265

gaa gga gac acc ttg atg ggc atc acc tac acg gtc ctc aca ccc ttc 866
 Glu Gly Asp Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe
 270 275 280 285

ctc agc ccc atc atc ttc agc ctc agg aac aag gag ctg aag gtc gcc 914
 Leu Ser Pro Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala
 290 295 300

atg aag aag act tgc ttc acc aaa ctc ttt cca cag aac tgc 956
 Met Lys Lys Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys
 305 310 315

tgaaatggct gactttctct caagagat 984

<210> 106
 <211> 315
 <212> PRT
 <213> Homo sapiens

<400> 106
 Met Gln Gly Leu Asn His Thr Ser Val Ser Glu Phe Ile Leu Val Gly
 1 5 10 15
 Phe Ser Ala Phe Pro His Leu Gln Leu Met Leu Phe Leu Leu Phe Leu
 20 25 30
 Leu Met Tyr Leu Phe Thr Leu Leu Gly Asn Leu Leu Ile Met Ala Thr
 35 40 45

Val Trp Ser Glu Arg Ser Leu His Met Pro Met Tyr Leu Phe Leu Cys
 50 55 60
 Ala Leu Ser Ile Thr Glu Ile Leu Tyr Thr Val Ala Ile Ile Pro Arg
 65 70 75 80
 Met Leu Ala Asp Leu Leu Ser Thr Gln Arg Ser Ile Ala Phe Leu Ala
 85 90 95
 Cys Ala Ser Gln Met Phe Phe Ser Phe Ser Phe Gly Phe Thr His Ser
 100 105 110
 Phe Leu Pro Thr Val Met Gly Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125
 Pro Leu Arg Tyr Asn Val Leu Met Ser Leu Arg Gly Cys Thr Cys Arg
 130 135 140
 Val Gly Cys Ser Trp Ala Gly Gly Leu Val Met Gly Met Val Val Thr
 145 150 155 160
 Ser Ala Ile Phe His Leu Ala Phe Cys Gly His Lys Glu Ile His His
 165 170 175
 Phe Phe Cys His Val Pro Pro Leu Leu Lys Leu Ala Cys Gly Asp Asp
 180 185 190
 Val Leu Val Val Ala Lys Gly Val Gly Leu Val Cys Ile Thr Ala Leu
 195 200 205
 Leu Gly Cys Phe Leu Leu Ile Leu Leu Ser Tyr Ala Phe Ile Val Ala
 210 215 220
 Ala Ile Leu Lys Ile Pro Ser Ala Glu Gly Arg Asn Lys Ala Phe Ser
 225 230 235 240
 Thr Cys Ala Ser His Leu Thr Val Val Val Val His Tyr Gly Phe Ala
 245 250 255
 Ser Val Ile Tyr Leu Lys Pro Lys Gly Pro Gln Tyr Pro Glu Gly Asp
 260 265 270
 Thr Leu Met Gly Ile Thr Tyr Thr Val Leu Thr Pro Phe Leu Ser Pro
 275 280 285
 Ile Ile Phe Ser Leu Arg Asn Lys Glu Leu Lys Val Ala Met Lys Lys
 290 295 300
 Thr Cys Phe Thr Lys Leu Phe Pro Gln Asn Cys
 305 310 315

<210> 107
 <211> 928
 <212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (3)..(923)

<400> 107

ca atg cat ttt gtg act gag ttt gtc ctc ctg ggt ttc cat ggt caa	47
Met His Phe Val Thr Glu Phe Val Leu Leu Gly Phe His Gly Gln	
1 5 10 15	
agg gag atg cag agc tgc ttc ttc tca ttc atc ctg gtt ctc tat ctc	95
Arg Glu Met Gln Ser Cys Phe Phe Ser Phe Ile Leu Val Leu Tyr Leu	
20 25 30	
ctg aca ctg cta ggg aat gga gct att gtc tgt gca gtg aaa ttg gac	143
Leu Thr Leu Leu Gly Asn Gly Ala Ile Val Cys Ala Val Lys Leu Asp	
35 40 45	
agg cgg ctc cac aca ccc atg tac atc ctt ctg gga aac ttt gcc ttt	191
Arg Arg Leu His Thr Pro Met Tyr Ile Leu Leu Gly Asn Phe Ala Phe	
50 55 60	
cta gag atc tgg tac att tcc tcc act gtc cca aac atg cta gtc aat	239
Leu Glu Ile Trp Tyr Ile Ser Ser Thr Val Pro Asn Met Leu Val Asn	
65 70 75	
atc ctc tct gag act aaa acc atc tcc ttc tct ggt tgc ttc ctg caa	287
Ile Leu Ser Glu Thr Lys Thr Ile Ser Phe Ser Gly Cys Phe Leu Gln	
80 85 90 95	
ttc tat ttc ttt ttt tca ctg ggt aca aca gag tgt ttc ttt tta tca	335
Phe Tyr Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Phe Phe Leu Ser	
100 105 110	
gtt atg gct tat gat cgg tat ctg gcc atc tgt cgt cca tta cac tac	383
Val Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr	
115 120 125	
ccc tcc atc atg act ggg aag ttc tgt ata att ctg gtc tgt gta tgc	431
Pro Ser Ile Met Thr Gly Lys Phe Cys Ile Ile Leu Val Cys Val Cys	
130 135 140	
tgg gta ggc gga ttt ctc tgc tat cca gtc cct att gtt ctt atc tcc	479
Trp Val Gly Gly Phe Leu Cys Tyr Pro Val Pro Ile Val Leu Ile Ser	
145 150 155	
caa ctt ccc ttc tgt ggg ccc aac atc att gac cac ttt gtg tgt gac	527
Gln Leu Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Val Cys Asp	
160 165 170 175	
cca ggc cca ttg ttt gca ctg gcc tgc atc tct gct cct tcc act gag	575
Pro Gly Pro Leu Phe Ala Leu Ala Cys Ile Ser Ala Pro Ser Thr Glu	
180 185 190	
ctt atc tgt tac acc ttc aac tcg atg att atc ttt ggg ccc ttc ctc	623
Leu Ile Cys Tyr Thr Phe Asn Ser Met Ile Ile Phe Gly Pro Phe Leu	

195	200	205	
tcc atc ttg gga tct cac act ctg gtc atc aga gct gtg ctt tgt att			671
Ser Ile Leu Gly Ser His Thr Leu Val Ile Arg Ala Val Leu Cys Ile			
210	215	220	
ccc tct ggt gct ggt cga act aaa gct ttc tcc aca cgt ggg tcc cac			719
Pro Ser Gly Ala Gly Arg Thr Lys Ala Phe Ser Thr Arg Gly Ser His			
225	230	235	
cta atg gtg gtg tct cta ttc tat gga acc ctt atg gtg atg tat gtg			767
Leu Met Val Val Ser Leu Phe Tyr Gly Thr Leu Met Val Met Tyr Val			
240	245	250	255
agc cca aca tca ggg aac cca gca gga atg cag aag atc atc act ctg			815
Ser Pro Thr Ser Gly Asn Pro Ala Gly Met Gln Lys Ile Ile Thr Leu			
260	265	270	
gta tac aca gca atg act cca ttc tta aat ccc ctt atc tat agt ctt			863
Val Tyr Thr Ala Met Thr Pro Phe Leu Asn Pro Leu Ile Tyr Ser Leu			
275	280	285	
cga aac aaa gac atg aaa gat gct tta aag aga gtc ctg ggg tta aca			911
Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Arg Val Leu Gly Leu Thr			
290	295	300	
gtt agc caa aac tgaga			928
Val Ser Gln Asn			
305			

<210> 108
 <211> 307
 <212> PRT
 <213> Homo sapiens

<400> 108
Met His Phe Val Thr Glu Phe Val Leu Leu Gly Phe His Gly Gln Arg
1 5 10 15
Glu Met Gln Ser Cys Phe Phe Ser Phe Ile Leu Val Leu Tyr Leu Leu
20 25 30
Thr Leu Leu Gly Asn Gly Ala Ile Val Cys Ala Val Lys Leu Asp Arg
35 40 45
Arg Leu His Thr Pro Met Tyr Ile Leu Leu Gly Asn Phe Ala Phe Leu
50 55 60
Glu Ile Trp Tyr Ile Ser Ser Thr Val Pro Asn Met Leu Val Asn Ile
65 70 75 80
Leu Ser Glu Thr Lys Thr Ile Ser Phe Ser Gly Cys Phe Leu Gln Phe
85 90 95
Tyr Phe Phe Phe Ser Leu Gly Thr Thr Glu Cys Phe Phe Leu Ser Val
100 105 110

Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg Pro Leu His Tyr Pro
 115 120 125
 Ser Ile Met Thr Gly Lys Phe Cys Ile Ile Leu Val Cys Val Cys Trp
 130 135 140
 Val Gly Gly Phe Leu Cys Tyr Pro Val Pro Ile Val Leu Ile Ser Gln
 145 150 155 160
 Leu Pro Phe Cys Gly Pro Asn Ile Ile Asp His Phe Val Cys Asp Pro
 165 170 175
 Gly Pro Leu Phe Ala Leu Ala Cys Ile Ser Ala Pro Ser Thr Glu Leu
 180 185 190
 Ile Cys Tyr Thr Phe Asn Ser Met Ile Ile Phe Gly Pro Phe Leu Ser
 195 200 205
 Ile Leu Gly Ser His Thr Leu Val Ile Arg Ala Val Leu Cys Ile Pro
 210 215 220
 Ser Gly Ala Gly Arg Thr Lys Ala Phe Ser Thr Arg Gly Ser His Leu
 225 230 235 240
 Met Val Val Ser Leu Phe Tyr Gly Thr Leu Met Val Met Tyr Val Ser
 245 250 255
 Pro Thr Ser Gly Asn Pro Ala Gly Met Gln Lys Ile Ile Thr Leu Val
 260 265 270
 Tyr Thr Ala Met Thr Pro Phe Leu Asn Pro Leu Ile Tyr Ser Leu Arg
 275 280 285
 Asn Lys Asp Met Lys Asp Ala Leu Lys Arg Val Leu Gly Leu Thr Val
 290 295 300
 Ser Gln Asn
 305

<210> 109
 <211> 966
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (14) .. (955)

<400> 109
 atttggtggg aat atg gaa aaa aga aat cta aca gtt gtc agg gaa ttc 49
 Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe
 1 5 10
 gtc ctt ctg gga ctt cct agc tca gca gag cag cag cac ctc ctg tct 97

Val	Leu	Leu	Gly	Leu	Pro	Ser	Ser	Ala	Glu	Gln	Gln	His	Leu	Leu	Ser		
	15						20					25					
gtg	ctc	ttt	ctc	tgt	atg	tat	tta	gcc	acc	acc	ttg	ggg	aac	atg	ctc	145	
Val	Leu	Phe	Leu	Cys	Met	Tyr	Leu	Ala	Thr	Thr	Leu	Gly	Asn	Met	Leu		
	30					35					40						
atc	att	gcg	acg	att	ggc	ttt	gac	tct	cac	ctc	cat	tcc	cct	atg	tac	193	
Ile	Ile	Ala	Thr	Ile	Gly	Phe	Asp	Ser	His	Leu	His	Ser	Pro	Met	Tyr		
	45				50					55					60		
ttc	ttc	ctt	agt	aac	ttg	gcc	ttt	gtt	gac	atc	tgc	ttt	acg	tgc	act	241	
Phe	Phe	Leu	Ser	Asn	Leu	Ala	Phe	Val	Asp	Ile	Cys	Phe	Thr	Ser	Thr		
				65				70						75			
aca	gtc	ccc	caa	atg	gta	gtg	aat	atc	ttg	act	ggc	acc	aag	act	atc	289	
Thr	Val	Pro	Gln	Met	Val	Val	Asn	Ile	Leu	Thr	Gly	Thr	Lys	Thr	Ile		
			80				85						90				
tct	ttt	gca	ggc	tgc	ctc	acc	cag	ctc	ttc	ttc	ttc	gtt	tct	ttt	gtg	337	
Ser	Phe	Ala	Gly	Cys	Leu	Thr	Gln	Leu	Phe	Phe	Phe	Val	Ser	Phe	Val		
	95					100						105					
aat	atg	gac	agc	ctc	ctt	ctg	tgt	gtg	atg	gcg	tat	gat	aga	tat	gtg	385	
Asn	Met	Asp	Ser	Leu	Leu	Leu	Cys	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Val		
	110					115					120						
gcg	att	tgc	cac	ccc	tta	cat	tac	acc	gcc	aga	atg	aac	ctg	tgc	ctt	433	
Ala	Ile	Cys	His	Pro	Leu	His	Tyr	Thr	Ala	Arg	Met	Asn	Leu	Cys	Leu		
	125				130					135					140		
tgt	gtc	cag	cta	gtg	gct	gga	ctg	tgg	ctt	gtt	act	tac	ctc	cac	gcc	481	
Cys	Val	Gln	Leu	Val	Ala	Gly	Leu	Trp	Leu	Val	Thr	Tyr	Leu	His	Ala		
				145				150						155			
ctc	ctg	cat	act	gtc	cta	ata	gca	cag	ctg	tcc	ttc	tgt	gcc	tcc	aat	529	
Leu	Leu	His	Thr	Val	Leu	Ile	Ala	Gln	Leu	Ser	Phe	Cys	Ala	Ser	Asn		
			160					165					170				
atc	atc	cat	cat	ttc	ttc	tgt	gat	ctc	aat	cct	ctc	ctg	cag	ctc	tct	577	
Ile	Ile	His	His	Phe	Phe	Cys	Asp	Leu	Asn	Pro	Leu	Leu	Gln	Leu	Ser		
		175					180						185				
tgc	tct	gac	gtc	tcc	ttc	aat	gta	atg	atc	att	ttt	gca	gta	gga	ggc	625	
Cys	Ser	Asp	Val	Ser	Phe	Asn	Val	Met	Ile	Ile	Phe	Ala	Val	Gly	Gly		
	190					195					200						
cta	ttg	gct	ctc	acg	ccc	ctt	gtc	tgt	atc	ctc	gta	tct	tat	gga	ctt	673	
Leu	Leu	Ala	Leu	Thr	Pro	Leu	Val	Cys	Ile	Leu	Val	Ser	Tyr	Gly	Leu		
	205				210					215					220		
atc	ttc	tcc	act	gtt	ctg	aag	atc	acc	tct	act	cag	ggc	aag	cag	aga	721	
Ile	Phe	Ser	Thr	Val	Leu	Lys	Ile	Thr	Ser	Thr	Gln	Gly	Lys	Gln	Arg		
			225						230					235			
gct	gtt	tcc	acc	tgc	agc	tgc	cac	ctg	tca	gtg	gtg	gtg	ttg	ttt	tac	769	
Ala	Val	Ser	Thr	Cys	Ser	Cys	His	Leu	Ser	Val	Val	Val	Leu	Phe	Tyr		

240	245	250	
ggc aca gcc atc gcc gtc tat ttc agc cct tca tcc ccc cat atg cct			817
Gly Thr Ala Ile Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro			
255	260	265	
gag agc gac act ctg tca acc atc atg tat tca atg gtg gct ccg atg			865
Glu Ser Asp Thr Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met			
270	275	280	
ctg aat cct ttc atc tat acc cta agg aac agg gat atg aag agg gga			913
Leu Asn Pro Phe Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly			
285	290	295	300
ctt cag aaa atg ctt ctc aag tgc aca gtc ttt cag cag caa			955
Leu Gln Lys Met Leu Leu Lys Cys Thr Val Phe Gln Gln Gln			
305	310		
taatgacctc a			966

<210> 110
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 110
 Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly
 1 5 10 15
 Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu
 20 25 30
 Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr
 35 40 45
 Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser
 50 55 60
 Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln
 65 70 75 80
 Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly
 85 90 95
 Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser
 100 105 110
 Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125
 Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu
 130 135 140
 Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr
 145 150 155 160

Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His
 165 170 175
 Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val
 180 185 190
 Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu
 195 200 205
 Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr
 210 215 220
 Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr
 225 230 235 240
 Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile
 245 250 255
 Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr
 260 265 270
 Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe
 275 280 285
 Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met
 290 295 300
 Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
 305 310

<210> 111
 <211> 966
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (14)..(955)

<400> 111
 atttggtggg aat atg gaa aaa aga aat cta aca gtt gtc agg gaa ttc 49
 Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe
 1 5 10
 gtc ctt ctg gga ctt cct agc tca gca gag cag cag cac ctc ctg tct 97
 Val Leu Leu Gly Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser
 15 20 25
 gtg ctc ttt ctc tgt atg tat tta gcc acc acc ttg ggg aac atg ctc 145
 Val Leu Phe Leu Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu
 30 35 40
 atc att gcg acg att ggc ttt gac tct cac ctc cat tcc cct atg tac 193
 Ile Ile Ala Thr Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr
 45 50 55 60

ttc ttc ctt agt aac ttg gcc ttt gtt gac atc tgc ttt acg tcg act	241
Phe Phe Leu Ser Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr	
65 70 75	
aca gtc ccc caa atg gta gtg aat atc ttg act ggc acc aag act atc	289
Thr Val Pro Gln Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile	
80 85 90	
tct ttt gca ggc tgc ctc acc cag ctc ttc ttc ttc gtt tct ttt gtg	337
Ser Phe Ala Gly Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val	
95 100 105	
aat atg gac agc ctc ctt ctg tgt gtg atg gcg tat gat aga tat gtg	385
Asn Met Asp Ser Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val	
110 115 120	
gcg att tgc cac ccc tta cat tac acc gcc aga atg aac ctg tgc ctt	433
Ala Ile Cys His Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu	
125 130 135 140	
tgt gtc cag cta gtg gct gga ctg tgg ctt gtt act tac ctc cac gcc	481
Cys Val Gln Leu Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala	
145 150 155	
ctc ctg cat act gtc cta ata gca cag ctg tcc ttc tgt gcc tcc aat	529
Leu Leu His Thr Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn	
160 165 170	
atc atc cat cat ttc ttc tgt gat ctc aat cct ctc ctg cag ctc tct	577
Ile Ile His His Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser	
175 180 185	
tgc tct gac gtc tcc ttc aat gta atg atc att ttt gca gta gga ggt	625
Cys Ser Asp Val Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly	
190 195 200	
cta ttg gct ctc acg ccc ctt gtc tgt atc ctc gta tct tat gga ctt	673
Leu Leu Ala Leu Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu	
205 210 215 220	
atc ttc tcc act gtt ctg aag atc acc tct act cag ggc aag cag aga	721
Ile Phe Ser Thr Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg	
225 230 235	
gct gtt tcc acc tgc agc tgc cac ctg tca gtg gtg gtg ttg ttt tac	769
Ala Val Ser Thr Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr	
240 245 250	
ggc aca gcc atc gcc gtc tat ttc agc cct tca tcc ccc cat atg cct	817
Gly Thr Ala Ile Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro	
255 260 265	
gag agc gac act ctg tca acc atc atg tat tca atg gtg gct ccg atg	865
Glu Ser Asp Thr Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met	
270 275 280	

ctg aat cct ttc atc tat acc cta agg aac agg gat atg aag agg gga 913
 Leu Asn Pro Phe Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly
 285 290 295 300
 ctt cag aaa atg ctt ctc aag tgc aca gtc ttt cag cag caa 955
 Leu Gln Lys Met Leu Leu Lys Cys Thr Val Phe Gln Gln Gln
 305 310
 taatgacctc a 966

 <210> 112
 <211> 314
 <212> PRT
 <213> Homo sapiens

 <400> 112
 Met Glu Lys Arg Asn Leu Thr Val Val Arg Glu Phe Val Leu Leu Gly
 1 5 10 15
 Leu Pro Ser Ser Ala Glu Gln Gln His Leu Leu Ser Val Leu Phe Leu
 20 25 30
 Cys Met Tyr Leu Ala Thr Thr Leu Gly Asn Met Leu Ile Ile Ala Thr
 35 40 45
 Ile Gly Phe Asp Ser His Leu His Ser Pro Met Tyr Phe Phe Leu Ser
 50 55 60
 Asn Leu Ala Phe Val Asp Ile Cys Phe Thr Ser Thr Thr Val Pro Gln
 65 70 75 80
 Met Val Val Asn Ile Leu Thr Gly Thr Lys Thr Ile Ser Phe Ala Gly
 85 90 95
 Cys Leu Thr Gln Leu Phe Phe Phe Val Ser Phe Val Asn Met Asp Ser
 100 105 110
 Leu Leu Leu Cys Val Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
 115 120 125
 Pro Leu His Tyr Thr Ala Arg Met Asn Leu Cys Leu Cys Val Gln Leu
 130 135 140
 Val Ala Gly Leu Trp Leu Val Thr Tyr Leu His Ala Leu Leu His Thr
 145 150 155 160
 Val Leu Ile Ala Gln Leu Ser Phe Cys Ala Ser Asn Ile Ile His His
 165 170 175
 Phe Phe Cys Asp Leu Asn Pro Leu Leu Gln Leu Ser Cys Ser Asp Val
 180 185 190
 Ser Phe Asn Val Met Ile Ile Phe Ala Val Gly Gly Leu Leu Ala Leu
 195 200 205
 Thr Pro Leu Val Cys Ile Leu Val Ser Tyr Gly Leu Ile Phe Ser Thr

210	215	220
Val Leu Lys Ile Thr Ser Thr Gln Gly Lys Gln Arg Ala Val Ser Thr		
225	230	235 240
Cys Ser Cys His Leu Ser Val Val Val Leu Phe Tyr Gly Thr Ala Ile		
	245	250 255
Ala Val Tyr Phe Ser Pro Ser Ser Pro His Met Pro Glu Ser Asp Thr		
	260	265 270
Leu Ser Thr Ile Met Tyr Ser Met Val Ala Pro Met Leu Asn Pro Phe		
	275	280 285
Ile Tyr Thr Leu Arg Asn Arg Asp Met Lys Arg Gly Leu Gln Lys Met		
	290	295 300
Leu Leu Lys Cys Thr Val Phe Gln Gln Gln		
305	310	

<210> 113
 <211> 984
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (38)..(979)

<400> 113	
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	Met Glu Arg Gln Asn Gln
	1 5
agc tgt gtg gtt gaa ttc atc ctc ttg ggc ttt tct aac tat cct gag	103
Ser Cys Val Val Glu Phe Ile Leu Leu Gly Phe Ser Asn Tyr Pro Glu	
	10 15 20
ctc cag ggg cag ctc ttt gtg gct ttc ctg gtt att tat ctg gtg acc	151
Leu Gln Gly Gln Leu Phe Val Ala Phe Leu Val Ile Tyr Leu Val Thr	
	25 30 35
ctg ata gga aat gcc att att ata gtc atc gtc tcc cta gac cag agc	199
Leu Ile Gly Asn Ala Ile Ile Ile Val Ile Val Ser Leu Asp Gln Ser	
	40 45 50
ctc cac gtt ccc atg tac ctg ttt ctc ctg aac tta tct gtg gtg gac	247
Leu His Val Pro Met Tyr Leu Phe Leu Leu Asn Leu Ser Val Val Asp	
	55 60 65 70
ctg agt ttc agt gca gtt att atg cct gaa atg ctg gtg gtc ctc tct	295
Leu Ser Phe Ser Ala Val Ile Met Pro Glu Met Leu Val Val Leu Ser	
	75 80 85
act gaa aaa act aca att tct ttt ggg ggc tgt ttt gca cag atg tat	343

Thr	Glu	Lys	Thr	Thr	Ile	Ser	Phe	Gly	Gly	Cys	Phe	Ala	Gln	Met	Tyr		
			90					95					100				
ttc	atc	ctt	ctt	ttt	ggt	ggg	gct	gaa	tgt	ttt	ctt	ctg	gga	gta	atg	391	
Phe	Ile	Leu	Leu	Phe	Gly	Gly	Ala	Glu	Cys	Phe	Leu	Leu	Gly	Val	Met		
		105					110					115					
gct	tat	gac	cga	ttt	gct	gca	att	tgc	cat	cct	ctc	aac	tac	caa	atg	439	
Ala	Tyr	Asp	Arg	Phe	Ala	Ala	Ile	Cys	His	Pro	Leu	Asn	Tyr	Gln	Met		
	120					125					130						
att	atg	aat	aaa	gga	ggt	ttt	atg	aaa	tta	att	ata	ttt	tca	tgg	gcc	487	
Ile	Met	Asn	Lys	Gly	Gly	Phe	Met	Lys	Leu	Ile	Ile	Phe	Ser	Trp	Ala		
135					140					145					150		
tta	ggt	ttt	atg	tta	ggt	act	ggt	caa	aca	tca	tgg	gta	tct	agt	ttt	535	
Leu	Gly	Phe	Met	Leu	Gly	Thr	Val	Gln	Thr	Ser	Trp	Val	Ser	Ser	Phe		
				155				160						165			
ccc	ttt	tgt	ggc	ctt	aat	gaa	att	aac	cat	ata	tct	tgt	gaa	acc	cca	583	
Pro	Phe	Cys	Gly	Leu	Asn	Glu	Ile	Asn	His	Ile	Ser	Cys	Glu	Thr	Pro		
			170					175					180				
gca	gtg	tta	gaa	ctt	gca	tgt	gca	gac	acg	ttt	ttg	ttt	gaa	atc	tat	631	
Ala	Val	Leu	Glu	Leu	Ala	Cys	Ala	Asp	Thr	Phe	Leu	Phe	Glu	Ile	Tyr		
		185					190					195					
gca	ttc	aca	ggc	acc	ttt	ttg	att	att	ttg	gtt	cct	ttc	ttg	ttg	ata	679	
Ala	Phe	Thr	Gly	Thr	Phe	Leu	Ile	Ile	Leu	Val	Pro	Phe	Leu	Leu	Ile		
	200					205					210						
ctc	ttg	tct	tac	att	cga	gtt	ctg	ttt	gcc	atc	ctg	aag	atg	cca	tca	727	
Leu	Leu	Ser	Tyr	Ile	Arg	Val	Leu	Phe	Ala	Ile	Leu	Lys	Met	Pro	Ser		
215					220				225					230			
acc	act	ggg	aga	caa	aag	gcc	ttt	tcc	acc	tgt	gcc	gct	cac	ctc	aca	775	
Thr	Thr	Gly	Arg	Gln	Lys	Ala	Phe	Ser	Thr	Cys	Ala	Ala	His	Leu	Thr		
				235				240						245			
tct	gtg	acc	cta	ttc	tat	ggc	aca	gcc	agt	atg	act	tat	tta	caa	ccc	823	
Ser	Val	Thr	Leu	Phe	Tyr	Gly	Thr	Ala	Ser	Met	Thr	Tyr	Leu	Gln	Pro		
			250					255					260				
aaa	tct	ggc	tac	tca	ccg	gaa	acc	aag	aaa	gtg	atg	tca	ttg	tct	tac	871	
Lys	Ser	Gly	Tyr	Ser	Pro	Glu	Thr	Lys	Lys	Val	Met	Ser	Leu	Ser	Tyr		
		265				270					275						
tca	ctt	ctg	aca	cca	ctg	ctg	aat	ccg	ctt	atc	tac	agt	ttg	cga	aat	919	
Ser	Leu	Leu	Thr	Pro	Leu	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn		
		280				285					290						
agt	gag	atg	aag	agg	gct	ttg	atg	aaa	tta	tgg	cga	agg	cga	gtg	gtt	967	
Ser	Glu	Met	Lys	Arg	Ala	Leu	Met	Lys	Leu	Trp	Arg	Arg	Arg	Val	Val		
295					300					305					310		
tta	cac	aca	atc	tgact												984	
Leu	His	Thr	Ile														

<210> 114
 <211> 314
 <212> PRT
 <213> Homo sapiens

 <400> 114
 Met Glu Arg Gln Asn Gln Ser Cys Val Val Glu Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn Tyr Pro Glu Leu Gln Gly Gln Leu Phe Val Ala Phe Leu
 20 25 30
 Val Ile Tyr Leu Val Thr Leu Ile Gly Asn Ala Ile Ile Ile Val Ile
 35 40 45
 Val Ser Leu Asp Gln Ser Leu His Val Pro Met Tyr Leu Phe Leu Leu
 50 55 60
 Asn Leu Ser Val Val Asp Leu Ser Phe Ser Ala Val Ile Met Pro Glu
 65 70 75 80
 Met Leu Val Val Leu Ser Thr Glu Lys Thr Thr Ile Ser Phe Gly Gly
 85 90 95
 Cys Phe Ala Gln Met Tyr Phe Ile Leu Leu Phe Gly Gly Ala Glu Cys
 100 105 110
 Phe Leu Leu Gly Val Met Ala Tyr Asp Arg Phe Ala Ala Ile Cys His
 115 120 125
 Pro Leu Asn Tyr Gln Met Ile Met Asn Lys Gly Gly Phe Met Lys Leu
 130 135 140
 Ile Ile Phe Ser Trp Ala Leu Gly Phe Met Leu Gly Thr Val Gln Thr
 145 150 155 160
 Ser Trp Val Ser Ser Phe Pro Phe Cys Gly Leu Asn Glu Ile Asn His
 165 170 175
 Ile Ser Cys Glu Thr Pro Ala Val Leu Glu Leu Ala Cys Ala Asp Thr
 180 185 190
 Phe Leu Phe Glu Ile Tyr Ala Phe Thr Gly Thr Phe Leu Ile Ile Leu
 195 200 205
 Val Pro Phe Leu Leu Ile Leu Leu Ser Tyr Ile Arg Val Leu Phe Ala
 210 215 220
 Ile Leu Lys Met Pro Ser Thr Thr Gly Arg Gln Lys Ala Phe Ser Thr
 225 230 235 240
 Cys Ala Ala His Leu Thr Ser Val Thr Leu Phe Tyr Gly Thr Ala Ser
 245 250 255
 Met Thr Tyr Leu Gln Pro Lys Ser Gly Tyr Ser Pro Glu Thr Lys Lys

260	265	270	
Val Met Ser Leu Ser Tyr Ser Leu Leu Thr Pro Leu Leu Asn Pro Leu			
275	280	285	
Ile Tyr Ser Leu Arg Asn Ser Glu Met Lys Arg Ala Leu Met Lys Leu			
290	295	300	
Trp Arg Arg Arg Val Val Leu His Thr Ile			
305	310		
<210> 115			
<211> 891			
<212> DNA			
<213> Homo sapiens			
<220>			
<221> CDS			
<222> (1)..(888)			
<400> 115			
cta tca ggt gca ccc tcc tgg tgg aca ttg ccc ctc att gct gtc tac	48		
Leu Ser Gly Ala Pro Ser Trp Trp Thr Leu Pro Leu Ile Ala Val Tyr			
1 5 10 15			
ctt ctc tct gcc ctg gga aat ggc acc atc ctc tgg atc att gcc ctg	96		
Leu Leu Ser Ala Leu Gly Asn Gly Thr Ile Leu Trp Ile Ile Ala Leu			
20 25 30			
gag ccc gcc ctg cac cgc cca atg cac ttc ttc ctc ttc ttg ctt agt	144		
Glu Pro Ala Leu His Arg Pro Met His Phe Phe Leu Phe Leu Leu Ser			
35 40 45			
gtg tct gat att gga ttg gtc act gcc ctg atg ccc aca ctg ctg ggc	192		
Val Ser Asp Ile Gly Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly			
50 55 60			
atc gcc ctt gct ggt gct cac act gtt cct gcc tca gcc tgc ctt cta	240		
Ile Ala Leu Ala Gly Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu			
65 70 75 80			
cag atg gtt ttt atc cat gtc ttt tct gtc atg gag tcc tct gtc ttg	288		
Gln Met Val Phe Ile His Val Phe Ser Val Met Glu Ser Ser Val Leu			
85 90 95			
ctc gcc atg tcc att gat cgg gca ctg gcc atc tgc cga cct ctc cac	336		
Leu Ala Met Ser Ile Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His			
100 105 110			
tac cca gcg ctc ctc acc aat ggt gta att agc aaa atc agc ctg gcc	384		
Tyr Pro Ala Leu Leu Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala			
115 120 125			
att tct ttt cga tgc ctg ggt ctc cat ctg ccc ctg cca ttc ctg ctg	432		
Ile Ser Phe Arg Cys Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu			

130	135	140	
gcc tac atg ccc tac tgc cgc cca cag gtc	cta acc cat tct tat tgc	480	
Ala Tyr Met Pro Tyr Cys Arg Pro Gln Val	Leu Thr His Ser Tyr Cys		
145	150 155 160		
ttg cat cca gat gtg gct cgt ttg gcc tgc	cca gaa gct tgg ggt gca	528	
Leu His Pro Asp Val Ala Arg Leu Ala Cys	Pro Glu Ala Trp Gly Ala		
	165 170 175		
gcc tac agc cta ttt gtg gtt ctt tca gcc atg	ggg ttg gac ccc ctg	576	
Ala Tyr Ser Leu Phe Val Val Leu Ser Ala	Met Gly Leu Asp Pro Leu		
	180 185 190		
ctt att ttc ttc tcc tat ggc ctg att ggc aag	gtg ttg caa ggt gtg	624	
Leu Ile Phe Phe Ser Tyr Gly Leu Ile Gly	Lys Val Leu Gln Gly Val		
	195 200 205		
gag tcc aga gag gat cgc tgg aag gct ggt	caa acc tgt gct gcc cac	672	
Glu Ser Arg Glu Asp Arg Trp Lys Ala Gly	Gln Thr Cys Ala Ala His		
	210 215 220		
ctc tct gca gtg ctc ctc ttc tat atc cct	atg atc ttc ccg gca ctg	720	
Leu Ser Ala Val Leu Leu Phe Tyr Ile Pro	Met Ile Phe Pro Ala Leu		
	225 230 235 240		
att aac cat cct gag ctg cca atc act cag	cat acc cat act ctt cta	768	
Ile Asn His Pro Glu Leu Pro Ile Thr Gln	His Thr His Thr Leu Leu		
	245 250 255		
tcc tat gtc cat ttc ctt ctt cct cca ttg	ata aac cct att ctc tat	816	
Ser Tyr Val His Phe Leu Leu Pro Pro Leu	Ile Asn Pro Ile Leu Tyr		
	260 265 270		
agt gtc aag atg aag gag att aga aag aga	ata ctc aac agg ttg cag	864	
Ser Val Lys Met Lys Glu Ile Arg Lys Arg	Ile Leu Asn Arg Leu Gln		
	275 280 285		
ccc agg aag gtg ggt ggt gct cag tga		891	
Pro Arg Lys Val Gly Gly Ala Gln			
	290 295		
<210> 116			
<211> 296			
<212> PRT			
<213> Homo sapiens			
<400> 116			
Leu Ser Gly Ala Pro Ser Trp Trp Thr Leu	Pro Leu Ile Ala Val Tyr		
1	5 10 15		
Leu Leu Ser Ala Leu Gly Asn Gly Thr Ile	Leu Trp Ile Ile Ala Leu		
	20 25 30		
Glu Pro Ala Leu His Arg Pro Met His Phe	Phe Leu Phe Leu Leu Ser		
	35 40 45		

Val Ser Asp Ile Gly Leu Val Thr Ala Leu Met Pro Thr Leu Leu Gly
50 55 60
Ile Ala Leu Ala Gly Ala His Thr Val Pro Ala Ser Ala Cys Leu Leu
65 70 75 80
Gln Met Val Phe Ile His Val Phe Ser Val Met Glu Ser Ser Val Leu
85 90 95
Leu Ala Met Ser Ile Asp Arg Ala Leu Ala Ile Cys Arg Pro Leu His
100 105 110
Tyr Pro Ala Leu Leu Thr Asn Gly Val Ile Ser Lys Ile Ser Leu Ala
115 120 125
Ile Ser Phe Arg Cys Leu Gly Leu His Leu Pro Leu Pro Phe Leu Leu
130 135 140
Ala Tyr Met Pro Tyr Cys Arg Pro Gln Val Leu Thr His Ser Tyr Cys
145 150 155 160
Leu His Pro Asp Val Ala Arg Leu Ala Cys Pro Glu Ala Trp Gly Ala
165 170 175
Ala Tyr Ser Leu Phe Val Val Leu Ser Ala Met Gly Leu Asp Pro Leu
180 185 190
Leu Ile Phe Phe Ser Tyr Gly Leu Ile Gly Lys Val Leu Gln Gly Val
195 200 205
Glu Ser Arg Glu Asp Arg Trp Lys Ala Gly Gln Thr Cys Ala Ala His
210 215 220
Leu Ser Ala Val Leu Leu Phe Tyr Ile Pro Met Ile Phe Pro Ala Leu
225 230 235 240
Ile Asn His Pro Glu Leu Pro Ile Thr Gln His Thr His Thr Leu Leu
245 250 255
Ser Tyr Val His Phe Leu Leu Pro Pro Leu Ile Asn Pro Ile Leu Tyr
260 265 270
Ser Val Lys Met Lys Glu Ile Arg Lys Arg Ile Leu Asn Arg Leu Gln
275 280 285
Pro Arg Lys Val Gly Gly Ala Gln
290 295

<210> 117
<211> 947
<212> DNA
<213> Homo sapiens
<220>

<221> CDS

<222> (16)..(939)

<400> 117

attactcctg caata atg gca aat ctc aca atc gtg act gaa ttt atc ctc	51
Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu	
1 5 10	
atg ggg ttt tct acc aat aaa aat atg tgc att ttg cat tcg att ctc	99
Met Gly Phe Ser Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu	
15 20 25	
ttc ttg ttg att tat ttg tgt gcc ctg atg ggg aat gtc ctc att atc	147
Phe Leu Leu Ile Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile	
30 35 40	
atg atc aca act ttg gac cat cat ctc cac acc ccc gtg tat ttc ttc	195
Met Ile Thr Thr Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe	
45 50 55 60	
ttg aag aat cta tct ttc ttg gat ctc tgc ctt att tca gtc acg gct	243
Leu Lys Asn Leu Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala	
65 70 75	
ccc aaa tct atc gcc aat tct ttg ata cac aac aac tcc att tca ttc	291
Pro Lys Ser Ile Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe	
80 85 90	
ctt ggc tgt gtt tcc cag gtc ttt ttg ttg ctt tct tca gca tct gca	339
Leu Gly Cys Val Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala	
95 100 105	
gag ctg ctc ctc ctc acg gtg atg tcc ttt gac cgc tat act gct ata	387
Glu Leu Leu Leu Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile	
110 115 120	
tgt cac cct ctg cac tat gat gtc atc atg gac agg agc acc tgt gtc	435
Cys His Pro Leu His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val	
125 130 135 140	
caa aga gcc act gtg tct tgg ctg tat ggg ggt ctg att gct gtg atg	483
Gln Arg Ala Thr Val Ser Trp Leu Tyr Gly Gly Leu Ile Ala Val Met	
145 150 155	
cac aca gct ggc acc ttc tta tcc tac tgt ggg tcc aac atg gtc cat	531
His Thr Ala Gly Thr Phe Leu Ser Tyr Cys Gly Ser Asn Met Val His	
160 165 170	
cag ttc ttc tgt gac att ccc cag tta tta gct att tct tgc tca gaa	579
Gln Phe Phe Cys Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu	
175 180 185	
aat tta ata aga gaa att gca ctc atc ctt att aat gta gtt ttg gat	627
Asn Leu Ile Arg Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp	
190 195 200	
ttc tgc tgt ttt att gtc atc atc att acc tat gtc cac gtc ttc tct	675

Phe Cys Cys Phe Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser
 205 210 215 220
 aca gtc aag aag atc cct tcc aca gaa ggc cag tca aaa gcc tac tct 723
 Thr Val Lys Lys Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser
 225 230 235
 act tgc ctt cca cac ttg ctg gtt gtg tta ttt ctt tcc act gga ttc 771
 Thr Cys Leu Pro His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe
 240 245 250
 att gct tat ctg aag cca gct tca gag tct cct tct att ttg gat gct 819
 Ile Ala Tyr Leu Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala
 255 260 265
 gta att tct gtg ttc tac act atg ctg ccc cca acc ttt aat ccc att 867
 Val Ile Ser Val Phe Tyr Thr Met Leu Pro Pro Thr Phe Asn Pro Ile
 270 275 280
 ata tac agt ttg aga aac aag gcc ata aag gtg gct ctg ggg atg ttg 915
 Ile Tyr Ser Leu Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu
 285 290 295 300
 ata aag gga aag ctc acc aaa aag taaaagct 947
 Ile Lys Gly Lys Leu Thr Lys Lys
 305

<210> 118
 <211> 308
 <212> PRT
 <213> Homo sapiens

<400> 118
 Met Ala Asn Leu Thr Ile Val Thr Glu Phe Ile Leu Met Gly Phe Ser
 1 5 10 15
 Thr Asn Lys Asn Met Cys Ile Leu His Ser Ile Leu Phe Leu Leu Ile
 20 25 30
 Tyr Leu Cys Ala Leu Met Gly Asn Val Leu Ile Ile Met Ile Thr Thr
 35 40 45
 Leu Asp His His Leu His Thr Pro Val Tyr Phe Phe Leu Lys Asn Leu
 50 55 60
 Ser Phe Leu Asp Leu Cys Leu Ile Ser Val Thr Ala Pro Lys Ser Ile
 65 70 75 80
 Ala Asn Ser Leu Ile His Asn Asn Ser Ile Ser Phe Leu Gly Cys Val
 85 90 95
 Ser Gln Val Phe Leu Leu Leu Ser Ser Ala Ser Ala Glu Leu Leu Leu
 100 105 110
 Leu Thr Val Met Ser Phe Asp Arg Tyr Thr Ala Ile Cys His Pro Leu
 115 120 125

His Tyr Asp Val Ile Met Asp Arg Ser Thr Cys Val Gln Arg Ala Thr
 130 135 140
 Val Ser Trp Leu Tyr Gly Gly Leu Ile Ala Val Met His Thr Ala Gly
 145 150 155 160
 Thr Phe Leu Ser Tyr Cys Gly Ser Asn Met Val His Gln Phe Phe Cys
 165 170 175
 Asp Ile Pro Gln Leu Leu Ala Ile Ser Cys Ser Glu Asn Leu Ile Arg
 180 185 190
 Glu Ile Ala Leu Ile Leu Ile Asn Val Val Leu Asp Phe Cys Cys Phe
 195 200 205
 Ile Val Ile Ile Ile Thr Tyr Val His Val Phe Ser Thr Val Lys Lys
 210 215 220
 Ile Pro Ser Thr Glu Gly Gln Ser Lys Ala Tyr Ser Thr Cys Leu Pro
 225 230 235 240
 His Leu Leu Val Val Leu Phe Leu Ser Thr Gly Phe Ile Ala Tyr Leu
 245 250 255
 Lys Pro Ala Ser Glu Ser Pro Ser Ile Leu Asp Ala Val Ile Ser Val
 260 265 270
 Phe Tyr Thr Met Leu Pro Pro Thr Phe Asn Pro Ile Ile Tyr Ser Leu
 275 280 285
 Arg Asn Lys Ala Ile Lys Val Ala Leu Gly Met Leu Ile Lys Gly Lys
 290 295 300
 Leu Thr Lys Lys
 305

<210> 119
 <211> 923
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(885)

<400> 119
 cta cag gta cta ttg ttt gcc ctt ttg ctg ctg gcc tat gtg ttg gtg 48
 Leu Gln Val Leu Leu Phe Ala Leu Leu Leu Leu Ala Tyr Val Leu Val
 1 5 10 15
 ctg act gag aac aca ctc atc att atg gca att agg aac cat tcc acc 96
 Leu Thr Glu Asn Thr Leu Ile Ile Met Ala Ile Arg Asn His Ser Thr
 20 25 30

ctc	cac	aaa	ccc	atg	tac	ttt	ttt	cta	gct	aat	atg	tcc	ttt	ctg	gag	144
Leu	His	Lys	Pro	Met	Tyr	Phe	Phe	Leu	Ala	Asn	Met	Ser	Phe	Leu	Glu	
		35					40					45				
atc	tgg	tat	gtc	act	gtc	act	att	ccc	aag	atg	ctt	gct	ggc	ttt	gtt	192
Ile	Trp	Tyr	Val	Thr	Val	Thr	Ile	Pro	Lys	Met	Leu	Ala	Gly	Phe	Val	
	50					55					60					
gga	tcc	aaa	cag	gat	cat	gga	cag	cta	atc	tcc	ttt	ggg	gga	tgc	atg	240
Gly	Ser	Lys	Gln	Asp	His	Gly	Gln	Leu	Ile	Ser	Phe	Gly	Gly	Cys	Met	
	65				70					75					80	
aca	cag	ctc	tac	ttt	ttc	ctt	ggc	ttg	ggc	tgc	act	gag	tgt	gtc	ctt	288
Thr	Gln	Leu	Tyr	Phe	Phe	Leu	Gly	Leu	Gly	Cys	Thr	Glu	Cys	Val	Leu	
				85					90					95		
ctc	gct	gtt	atg	gcc	tat	gat	cgc	tat	atg	gcc	atc	tgc	tat	cct	ctc	336
Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Met	Ala	Ile	Cys	Tyr	Pro	Leu	
			100					105					110			
cac	tac	cca	gtc	att	gtc	agt	ggc	cgg	ctg	tgt	gtg	cag	atg	gct	gct	384
His	Tyr	Pro	Val	Ile	Val	Ser	Gly	Arg	Leu	Cys	Val	Gln	Met	Ala	Ala	
		115					120					125				
ggc	tct	tgg	gct	gga	ggg	ttt	ggc	atc	tcc	atg	gtc	aaa	gtt	ttt	ctt	432
Gly	Ser	Trp	Ala	Gly	Gly	Phe	Gly	Ile	Ser	Met	Val	Lys	Val	Phe	Leu	
	130					135					140					
att	tct	ggc	ctc	tct	tac	tgt	ggc	ccc	aac	atc	atc	aac	cac	ttt	ttc	480
Ile	Ser	Gly	Leu	Ser	Tyr	Cys	Gly	Pro	Asn	Ile	Ile	Asn	His	Phe	Phe	
	145				150					155					160	
tgt	gat	gtc	tct	cca	ttg	ctc	aac	ctc	tca	tgc	act	gat	atg	tcc	aca	528
Cys	Asp	Val	Ser	Pro	Leu	Leu	Asn	Leu	Ser	Cys	Thr	Asp	Met	Ser	Thr	
				165					170					175		
gca	gag	ctt	aca	gat	ttc	atc	ctg	gcc	att	ttt	att	ctt	cta	ggg	cca	576
Ala	Glu	Leu	Thr	Asp	Phe	Ile	Leu	Ala	Ile	Phe	Ile	Leu	Leu	Gly	Pro	
			180					185					190			
ctc	tct	gtc	act	ggg	gcc	tcc	tat	gtg	gcc	att	act	ggg	gct	gtg	atg	624
Leu	Ser	Val	Thr	Gly	Ala	Ser	Tyr	Val	Ala	Ile	Thr	Gly	Ala	Val	Met	
		195					200					205				
cac	att	cct	tcg	gct	gct	gga	cgc	tat	aag	gcc	ttt	tcc	acc	tgt	gcc	672
His	Ile	Pro	Ser	Ala	Ala	Gly	Arg	Tyr	Lys	Ala	Phe	Ser	Thr	Cys	Ala	
	210					215					220					
tct	cat	ctc	act	gtt	gtg	ata	atc	ttc	tat	gca	gcc	agt	atc	ttc	atc	720
Ser	His	Leu	Thr	Val	Val	Ile	Ile	Phe	Tyr	Ala	Ala	Ser	Ile	Phe	Ile	
	225				230					235					240	
tat	gct	cgg	cca	aag	gca	ctc	tca	gct	ttt	gac	acc	aac	aag	ttg	gtc	768
Tyr	Ala	Arg	Pro	Lys	Ala	Leu	Ser	Ala	Phe	Asp	Thr	Asn	Lys	Leu	Val	
				245					250					255		
tct	gta	ctg	tat	gct	gtc	att	gta	cca	ttg	ctc	aat	ccc	atc	att	tac	816

Ser Val Leu Tyr Ala Val Ile Val Pro Leu Leu Asn Pro Ile Ile Tyr
260 265 270

tgc ctg agc aat caa gag gtc aag aga gcc cta tgc tgt act ctg caa 864
Cys Leu Ser Asn Gln Glu Val Lys Arg Ala Leu Cys Cys Thr Leu Gln
275 280 285

cct gta cca gca cca gga tcc tgacccaag aaagctagca gaaatgtata 915
Pro Val Pro Ala Pro Gly Ser
290 295

gaagggat 923

<210> 120
<211> 295
<212> PRT
<213> Homo sapiens

<400> 120
Leu Gln Val Leu Leu Phe Ala Leu Leu Leu Leu Ala Tyr Val Leu Val
1 5 10 15

Leu Thr Glu Asn Thr Leu Ile Ile Met Ala Ile Arg Asn His Ser Thr
20 25 30

Leu His Lys Pro Met Tyr Phe Phe Leu Ala Asn Met Ser Phe Leu Glu
35 40 45

Ile Trp Tyr Val Thr Val Thr Ile Pro Lys Met Leu Ala Gly Phe Val
50 55 60

Gly Ser Lys Gln Asp His Gly Gln Leu Ile Ser Phe Gly Gly Cys Met
65 70 75 80

Thr Gln Leu Tyr Phe Phe Leu Gly Leu Gly Cys Thr Glu Cys Val Leu
85 90 95

Leu Ala Val Met Ala Tyr Asp Arg Tyr Met Ala Ile Cys Tyr Pro Leu
100 105 110

His Tyr Pro Val Ile Val Ser Gly Arg Leu Cys Val Gln Met Ala Ala
115 120 125

Gly Ser Trp Ala Gly Gly Phe Gly Ile Ser Met Val Lys Val Phe Leu
130 135 140

Ile Ser Gly Leu Ser Tyr Cys Gly Pro Asn Ile Ile Asn His Phe Phe
145 150 155 160

Cys Asp Val Ser Pro Leu Leu Asn Leu Ser Cys Thr Asp Met Ser Thr
165 170 175

Ala Glu Leu Thr Asp Phe Ile Leu Ala Ile Phe Ile Leu Leu Gly Pro
180 185 190

Leu Ser Val Thr Gly Ala Ser Tyr Val Ala Ile Thr Gly Ala Val Met

195	200	205
His Ile Pro Ser Ala Ala Gly Arg Tyr Lys Ala Phe Ser Thr Cys Ala		
210	215	220
Ser His Leu Thr Val Val Ile Ile Phe Tyr Ala Ala Ser Ile Phe Ile		
225	230	235 240
Tyr Ala Arg Pro Lys Ala Leu Ser Ala Phe Asp Thr Asn Lys Leu Val		
	245	250 255
Ser Val Leu Tyr Ala Val Ile Val Pro Leu Leu Asn Pro Ile Ile Tyr		
	260	265 270
Cys Leu Ser Asn Gln Glu Val Lys Arg Ala Leu Cys Cys Thr Leu Gln		
	275	280 285
Pro Val Pro Ala Pro Gly Ser		
290	295	

<210> 121
 <211> 945
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (6)..(935)

<400> 121
 atcct atg gaa cca cag aac acc aca cag gta tca atg ttt gtc ctc tta 50
 Met Glu Pro Gln Asn Thr Thr Gln Val Ser Met Phe Val Leu Leu
 1 5 10 15

ggg ttt tca cag acc caa gag ctc cag aaa ttc ctg ttc ctt ctg ttc 98
 Gly Phe Ser Gln Thr Gln Glu Leu Gln Lys Phe Leu Phe Leu Leu Phe
 20 25 30

ctg tta gtc tat gtt acc acc att gtg gga aac ctc ctt atc atg gtc 146
 Leu Leu Val Tyr Val Thr Thr Ile Val Gly Asn Leu Leu Ile Met Val
 35 40 45

aca gtg act ttt gac tgc cgg ctc cac aca ccc atg tat ttt ctg ctc 194
 Thr Val Thr Phe Asp Cys Arg Leu His Thr Pro Met Tyr Phe Leu Leu
 50 55 60

cga aat cta gct ctc ata gac ctc tgc tat tcc aca gtc acc tct cca 242
 Arg Asn Leu Ala Leu Ile Asp Leu Cys Tyr Ser Thr Val Thr Ser Pro
 65 70 75

aag atg ctg gtg gac ttc ctc cat gag acc aag acg atc tcc tac cag 290
 Lys Met Leu Val Asp Phe Leu His Glu Thr Lys Thr Ile Ser Tyr Gln
 80 85 90 95

ggc tgc atg gcc cag atc ttc ttc ttc cac ctt ttg gga ggt ggg act 338

Gly Cys Met Ala Gln Ile Phe Phe Phe His Leu Leu Gly Gly Gly Thr	
100 105 110	
gtc ttt ttt ctc tca gtc atg gcc tat gac cgc tac ata gcc atc tcc	386
Val Phe Phe Leu Ser Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser	
115 120 125	
cag ccc ctc cgg tat gtc acc atc atg aac act caa ttg tgt gtg ggc	434
Gln Pro Leu Arg Tyr Val Thr Ile Met Asn Thr Gln Leu Cys Val Gly	
130 135 140	
ctg gta gta gcc gcc tgg gtg ggg ggc ttt gtc cac tcc att gtc caa	482
Leu Val Val Ala Ala Trp Val Gly Gly Phe Val His Ser Ile Val Gln	
145 150 155	
ctg gct ctg ata ctt cca ctg ccc ttc tgt ggc ccc aat atc ata gat	530
Leu Ala Leu Ile Leu Pro Leu Pro Phe Cys Gly Pro Asn Ile Ile Asp	
160 165 170 175	
aac ttc tac tgt gat gtt ccc caa gta ctg aga ctt gcc tgc act gat	578
Asn Phe Tyr Cys Asp Val Pro Gln Val Leu Arg Leu Ala Cys Thr Asp	
180 185 190	
acc tcc ctc ctg gag ttc ctc atg atc tcc aac agt ggg ctg cta gtt	626
Thr Ser Leu Leu Glu Phe Leu Met Ile Ser Asn Ser Gly Leu Leu Val	
195 200 205	
atc atc tgg ttc ctc ctc ctt ctg atc tct tat act gtc atc ctg gtg	674
Ile Ile Trp Phe Leu Leu Leu Leu Ile Ser Tyr Thr Val Ile Leu Val	
210 215 220	
atg ctg agg tcc cac tcg gga aag gca agg agg aag gca gct tcc acc	722
Met Leu Arg Ser His Ser Gly Lys Ala Arg Arg Lys Ala Ala Ser Thr	
225 230 235	
tgc acc acc cac atc atc gtg gtg tcc atg atc ttc att ccc tgt atc	770
Cys Thr Thr His Ile Ile Val Val Ser Met Ile Phe Ile Pro Cys Ile	
240 245 250 255	
tat atc tat acc tgg ccc ttc acc cca ttc ctc ata gac aag gct gtg	818
Tyr Ile Tyr Thr Trp Pro Phe Thr Pro Phe Leu Ile Asp Lys Ala Val	
260 265 270	
tcc atc agc tac aca gtc atg acc ccc atg ctc aac ccc atg atc tac	866
Ser Ile Ser Tyr Thr Val Met Thr Pro Met Leu Asn Pro Met Ile Tyr	
275 280 285	
aac ctg aga aac cag gac atg aaa gca gcc atg agg aga tta ggc aag	914
Asn Leu Arg Asn Gln Asp Met Lys Ala Ala Met Arg Arg Leu Gly Lys	
290 295 300	
tgc cta gta att tgc agg gag taaactttaa	945
Cys Leu Val Ile Cys Arg Glu	
305 310	

<210> 122

<211> 310
 <212> PRT
 <213> Homo sapiens

<400> 122

Met	Glu	Pro	Gln	Asn	Thr	Thr	Gln	Val	Ser	Met	Phe	Val	Leu	Leu	Gly
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Phe	Ser	Gln	Thr	Gln	Glu	Leu	Gln	Lys	Phe	Leu	Phe	Leu	Leu	Phe	Leu
			20					25					30		
Leu	Val	Tyr	Val	Thr	Thr	Ile	Val	Gly	Asn	Leu	Leu	Ile	Met	Val	Thr
		35					40					45			
Val	Thr	Phe	Asp	Cys	Arg	Leu	His	Thr	Pro	Met	Tyr	Phe	Leu	Leu	Arg
	50					55					60				
Asn	Leu	Ala	Leu	Ile	Asp	Leu	Cys	Tyr	Ser	Thr	Val	Thr	Ser	Pro	Lys
65					70					75					80
Met	Leu	Val	Asp	Phe	Leu	His	Glu	Thr	Lys	Thr	Ile	Ser	Tyr	Gln	Gly
				85					90					95	
Cys	Met	Ala	Gln	Ile	Phe	Phe	Phe	His	Leu	Leu	Gly	Gly	Gly	Thr	Val
			100					105						110	
Phe	Phe	Leu	Ser	Val	Met	Ala	Tyr	Asp	Arg	Tyr	Ile	Ala	Ile	Ser	Gln
		115						120				125			
Pro	Leu	Arg	Tyr	Val	Thr	Ile	Met	Asn	Thr	Gln	Leu	Cys	Val	Gly	Leu
	130					135					140				
Val	Val	Ala	Ala	Trp	Val	Gly	Gly	Phe	Val	His	Ser	Ile	Val	Gln	Leu
145					150					155					160
Ala	Leu	Ile	Leu	Pro	Leu	Pro	Phe	Cys	Gly	Pro	Asn	Ile	Ile	Asp	Asn
				165					170					175	
Phe	Tyr	Cys	Asp	Val	Pro	Gln	Val	Leu	Arg	Leu	Ala	Cys	Thr	Asp	Thr
			180					185					190		
Ser	Leu	Leu	Glu	Phe	Leu	Met	Ile	Ser	Asn	Ser	Gly	Leu	Leu	Val	Ile
	195						200					205			
Ile	Trp	Phe	Leu	Leu	Leu	Leu	Ile	Ser	Tyr	Thr	Val	Ile	Leu	Val	Met
	210					215					220				
Leu	Arg	Ser	His	Ser	Gly	Lys	Ala	Arg	Arg	Lys	Ala	Ala	Ser	Thr	Cys
225					230					235					240
Thr	Thr	His	Ile	Ile	Val	Val	Ser	Met	Ile	Phe	Ile	Pro	Cys	Ile	Tyr
			245						250					255	
Ile	Tyr	Thr	Trp	Pro	Phe	Thr	Pro	Phe	Leu	Ile	Asp	Lys	Ala	Val	Ser
			260					265					270		
Ile	Ser	Tyr	Thr	Val	Met	Thr	Pro	Met	Leu	Asn	Pro	Met	Ile	Tyr	Asn

275

280

285

Leu Arg Asn Gln Asp Met Lys Ala Ala Met Arg Arg Leu Gly Lys Cys
 290 295 300

Leu Val Ile Cys Arg Glu
 305 310

<210> 123

<211> 952

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1) .. (945)

<400> 123

atg ttc tcc cca aac cac acc ata gtg aca gaa ttc att ctc ttg gga 48
 Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15

ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gta ttc ctt 96
 Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu
 20 25 30

gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg 144
 Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu
 35 40 45

atc agg acc aat tcc cac ctg caa aca ccc atg tat ttc ttc ctt ggc 192
 Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat 240
 His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn
 65 70 75 80

atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga 288
 Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly
 85 90 95

tgc ttc aca cag tgt ctt ctc ttc atc gcc ctg gtg atc act gag ttt 336
 Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe
 100 105 110

tac atc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc 384
 Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser
 115 120 125

cct ttg cat tac agt tcc agg atg tcc aag aac atc tgt gtc tgt ctg 432
 Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu
 130 135 140

gtc act atc cct tac atg tat ggg ttt ctt agt ggg ttc tct cag tca 480

35					40					45					
Ile	Arg	Thr	Asn	Ser	His	Leu	Gln	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly
	50					55					60				
His	Leu	Ser	Phe	Val	Asp	Ile	Cys	Tyr	Ser	Ser	Asn	Val	Thr	Pro	Asn
65					70					75					80
Met	Leu	His	Asn	Phe	Leu	Ser	Glu	Gln	Lys	Thr	Ile	Ser	Tyr	Ala	Gly
				85					90					95	
Cys	Phe	Thr	Gln	Cys	Leu	Leu	Phe	Ile	Ala	Leu	Val	Ile	Thr	Glu	Phe
			100					105					110		
Tyr	Ile	Leu	Ala	Ser	Met	Ala	Leu	Asp	Arg	Tyr	Val	Ala	Ile	Cys	Ser
	115						120					125			
Pro	Leu	His	Tyr	Ser	Ser	Arg	Met	Ser	Lys	Asn	Ile	Cys	Val	Cys	Leu
	130					135					140				
Val	Thr	Ile	Pro	Tyr	Met	Tyr	Gly	Phe	Leu	Ser	Gly	Phe	Ser	Gln	Ser
145					150					155					160
Leu	Leu	Thr	Phe	His	Leu	Ser	Phe	Cys	Gly	Ser	Leu	Glu	Ile	Asn	His
				165					170					175	
Phe	Tyr	Cys	Ala	Asp	Pro	Pro	Leu	Ile	Met	Leu	Ala	Cys	Ser	Asp	Thr
			180					185						190	
Arg	Val	Lys	Lys	Met	Ala	Met	Phe	Val	Val	Ala	Gly	Phe	Asn	Leu	Ser
	195						200					205			
Ser	Ser	Leu	Phe	Ile	Ile	Leu	Leu	Ser	Tyr	Leu	Phe	Ile	Phe	Ala	Ala
	210					215					220				
Ile	Phe	Arg	Ile	Arg	Ser	Ala	Glu	Gly	Arg	His	Lys	Ala	Phe	Ser	Thr
225					230					235					240
Cys	Ala	Ser	His	Leu	Thr	Ile	Val	Thr	Leu	Phe	Tyr	Gly	Thr	Leu	Phe
				245					250					255	
Cys	Met	Tyr	Val	Arg	Pro	Pro	Ser	Glu	Lys	Ser	Val	Glu	Glu	Ser	Lys
			260					265					270		
Ile	Thr	Ala	Val	Phe	Tyr	Thr	Phe	Leu	Ser	Pro	Met	Leu	Asn	Pro	Leu
	275						280					285			
Ile	Tyr	Ser	Leu	Arg	Asn	Thr	Asp	Val	Ile	Leu	Ala	Met	Gln	Gln	Met
	290					295					300				
Ile	Arg	Gly	Lys	Ser	Phe	His	Lys	Ile	Ala	Val					
305					310					315					

<210> 125

<211> 952

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(945)

<400> 125

atg ttc tcc cca aac cac acc ata gtg aca gaa ttc att ctc ttg gga	48
Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly	
1 5 10 15	
ctg aca gac gac cca gtg cta gag aag atc ctg ttt ggg gta ttc ctt	96
Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu	
20 25 30	
gcg atc tac cta atc aca ctg gca ggc aac ctg tgc atg atc ctg ctg	144
Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu	
35 40 45	
atc agg acc aat tcc cac ctg caa aca ccc atg tat ttc ttc ctt ggc	192
Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly	
50 55 60	
cac ctc tcc ttt gta gac att tgc tat tct tcc aat gtt act cca aat	240
His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn	
65 70 75 80	
atg ctg cac aat ttc ctc tca gaa cag aag acc atc tcc tac gct gga	288
Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly	
85 90 95	
tgc ttc aca cag tgt ctt ctc ttc atc gcc ctg gtg atc act gag ttt	336
Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe	
100 105 110	
tac atc ctt gct tca atg gca ttg gat cgc tat gta gcc att tgc agc	384
Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser	
115 120 125	
cct ttg cat tac agt tcc agg atg tcc aag aac atc tgt gtc tgt ctg	432
Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu	
130 135 140	
gtc act atc cct tac atg tat ggg ttt ctt agt ggg ttc tct cag tca	480
Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser	
145 150 155 160	
ctg cta acc ttt cac tta tcc ttc tgt ggc tcc ctt gaa atc aat cat	528
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His	
165 170 175	
ttc tac tgc gct gat cct cct ctt atc atg ctg gcc tgc tct gac acc	576
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr	
180 185 190	
cgt gtc aaa aag atg gca atg ttt gta gtt gca ggc ttt aat ctc tca	624

Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser
 195 200 205

agc tct ctc ttc atc att ctt ctg tcc tat ctt ttc att ttt gca gcg 672
 Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala
 210 215 220

atc ttc agg atc cgt tct gct gaa ggc agg cac aaa gcc ttt tct acg 720
 Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr
 225 230 235 240

tgt gct tcc cac ctg aca ata gtc act ttg ttt tat gga acc ctc ttc 768
 Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe
 245 250 255

tgc atg tac gta agg cct cca tca gag aag tct gta gag gag tcc aaa 816
 Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys
 260 265 270

ata act gca gtc ttt tat act ttt ttg agc cca atg ctg aac cca ttg 864
 Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu
 275 280 285

atc tat agc cta cgg aac aca gat gta atc ctt gcc atg caa caa atg 912
 Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met
 290 295 300

att agg gga aaa tcc ttt cat aaa att gca gtt taggctt 952
 Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val
 305 310 315

<210> 126
 <211> 315
 <212> PRT
 <213> Homo sapiens

<400> 126
 Met Phe Ser Pro Asn His Thr Ile Val Thr Glu Phe Ile Leu Leu Gly
 1 5 10 15

Leu Thr Asp Asp Pro Val Leu Glu Lys Ile Leu Phe Gly Val Phe Leu
 20 25 30

Ala Ile Tyr Leu Ile Thr Leu Ala Gly Asn Leu Cys Met Ile Leu Leu
 35 40 45

Ile Arg Thr Asn Ser His Leu Gln Thr Pro Met Tyr Phe Phe Leu Gly
 50 55 60

His Leu Ser Phe Val Asp Ile Cys Tyr Ser Ser Asn Val Thr Pro Asn
 65 70 75 80

Met Leu His Asn Phe Leu Ser Glu Gln Lys Thr Ile Ser Tyr Ala Gly
 85 90 95

Cys Phe Thr Gln Cys Leu Leu Phe Ile Ala Leu Val Ile Thr Glu Phe

100	105	110
Tyr Ile Leu Ala Ser Met Ala Leu Asp Arg Tyr Val Ala Ile Cys Ser		
115	120	125
Pro Leu His Tyr Ser Ser Arg Met Ser Lys Asn Ile Cys Val Cys Leu		
130	135	140
Val Thr Ile Pro Tyr Met Tyr Gly Phe Leu Ser Gly Phe Ser Gln Ser		
145	150	155 160
Leu Leu Thr Phe His Leu Ser Phe Cys Gly Ser Leu Glu Ile Asn His		
	165 170	175
Phe Tyr Cys Ala Asp Pro Pro Leu Ile Met Leu Ala Cys Ser Asp Thr		
	180 185	190
Arg Val Lys Lys Met Ala Met Phe Val Val Ala Gly Phe Asn Leu Ser		
	195 200	205
Ser Ser Leu Phe Ile Ile Leu Leu Ser Tyr Leu Phe Ile Phe Ala Ala		
	210 215	220
Ile Phe Arg Ile Arg Ser Ala Glu Gly Arg His Lys Ala Phe Ser Thr		
	225 230	235 240
Cys Ala Ser His Leu Thr Ile Val Thr Leu Phe Tyr Gly Thr Leu Phe		
	245 250	255
Cys Met Tyr Val Arg Pro Pro Ser Glu Lys Ser Val Glu Glu Ser Lys		
	260 265	270
Ile Thr Ala Val Phe Tyr Thr Phe Leu Ser Pro Met Leu Asn Pro Leu		
	275 280	285
Ile Tyr Ser Leu Arg Asn Thr Asp Val Ile Leu Ala Met Gln Gln Met		
	290 295	300
Ile Arg Gly Lys Ser Phe His Lys Ile Ala Val		
305	310	315

<210> 127
 <211> 938
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
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<400> 127
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 Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly
 1 5 10

ctt ttc cag gat cca gcg gtg cag agt gta tgc ttt gtg gtg ttt ctc	98
Leu Phe Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu	
15 20 25 30	
ccc gtg tac ctt gcc gcg gtg gtg ggc aat ggc ctc atc gtt ctg acg	146
Pro Val Tyr Leu Ala Ala Val Val Gly Asn Gly Leu Ile Val Leu Thr	
35 40 45	
gtc agt atc agc aag agt ctg gat tct ccc atg tac ttc ttc ctt agc	194
Val Ser Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser	
50 55 60	
tac ctg tcc ttg gtg gag atc agt tat tcc tcc act atc gcc cct aaa	242
Tyr Leu Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys	
65 70 75	
ttc atc ata gac tta ctt gcc aag att aaa acc atc tct ctg gaa ggc	290
Phe Ile Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly	
80 85 90	
tgt ctg act cag ata ttc ttc ttc cac ttc ttt ggg gtt gct gag atc	338
Cys Leu Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile	
95 100 105 110	
ctt ttg att gtg gtg atg gcc tat gat tgc tac gtg gcc att tgc aag	386
Leu Leu Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys	
115 120 125	
cct ctt cat tat atg aac att atc agt cgt caa ctg tgt cac ctt ctg	434
Pro Leu His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu	
130 135 140	
gtg gct ggt tcc tgg ctg ggg ggc ttt tgt cac tcc ata att cag att	482
Val Ala Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile	
145 150 155	
ctc gtt atc atc caa ttg ccc ttc tgt ggt ccc aat gtg att gac cac	530
Leu Val Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His	
160 165 170	
tat ttc tgt gac ctc cag cct tta ttc aag ctt gcc tgc act gac acc	578
Tyr Phe Cys Asp Leu Gln Pro Leu Phe Lys Leu Ala Cys Thr Asp Thr	
175 180 185 190	
ttc atg gag ggg gtt att gtg ttg gcc aac agt gga tta ttc tct gtc	626
Phe Met Glu Gly Val Ile Val Leu Ala Asn Ser Gly Leu Phe Ser Val	
195 200 205	
ttc tcc ttc ctc atc ttg gtg tcc tct tat att gtc att ctg gtc aac	674
Phe Ser Phe Leu Ile Leu Val Ser Ser Tyr Ile Val Ile Leu Val Asn	
210 215 220	
ttg agg aac cat tct gca gag ggg agg cac aaa gcc ctc tcc acc tgt	722
Leu Arg Asn His Ser Ala Glu Gly Arg His Lys Ala Leu Ser Thr Cys	
225 230 235	
gct tct cac atc aca gtg gtc atc ttg ttt ttt gga cct gct atc ttc	770

Ala Ser His Ile Thr Val Val Ile Leu Phe Phe Gly Pro Ala Ile Phe
240 245 250

ctc tac atg cga cct tct tcc act ttc act gaa gat aaa ctt gtg gct 818
Leu Tyr Met Arg Pro Ser Ser Thr Phe Thr Glu Asp Lys Leu Val Ala
255 260 265 270

gta ttc tac atg gtc atc acc ccc atg ctg aac ccc atc att tac aca 866
Val Phe Tyr Met Val Ile Thr Pro Met Leu Asn Pro Ile Ile Tyr Thr
275 280 285

ctc agg aat gca gag gtg aaa atc gcc ata aga aga ttg tgg agc aaa 914
Leu Arg Asn Ala Glu Val Lys Ile Ala Ile Arg Arg Leu Trp Ser Lys
290 295 300

aag gag aat cca ggg agg gag tga 938
Lys Glu Asn Pro Gly Arg Glu
305

<210> 128
<211> 309
<212> PRT
<213> Homo sapiens

<400> 128
Met Ala Ser Thr Ser Asn Val Thr Glu Leu Ile Phe Thr Gly Leu Phe
1 5 10 15

Gln Asp Pro Ala Val Gln Ser Val Cys Phe Val Val Phe Leu Pro Val
20 25 30

Tyr Leu Ala Ala Val Val Gly Asn Gly Leu Ile Val Leu Thr Val Ser
35 40 45

Ile Ser Lys Ser Leu Asp Ser Pro Met Tyr Phe Phe Leu Ser Tyr Leu
50 55 60

Ser Leu Val Glu Ile Ser Tyr Ser Ser Thr Ile Ala Pro Lys Phe Ile
65 70 75 80

Ile Asp Leu Leu Ala Lys Ile Lys Thr Ile Ser Leu Glu Gly Cys Leu
85 90 95

Thr Gln Ile Phe Phe Phe His Phe Phe Gly Val Ala Glu Ile Leu Leu
100 105 110

Ile Val Val Met Ala Tyr Asp Cys Tyr Val Ala Ile Cys Lys Pro Leu
115 120 125

His Tyr Met Asn Ile Ile Ser Arg Gln Leu Cys His Leu Leu Val Ala
130 135 140

Gly Ser Trp Leu Gly Gly Phe Cys His Ser Ile Ile Gln Ile Leu Val
145 150 155 160

Ile Ile Gln Leu Pro Phe Cys Gly Pro Asn Val Ile Asp His Tyr Phe

Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly
85 90 95

Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Leu Gly Cys Ser His Ser
100 105 110

Phe Leu Leu Ala Val Met Gly Tyr Asp Arg Tyr Ile Ala Ile Cys Asn
115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu
130 135 140

Val Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ala Gln Ile Ile Thr
145 150 155 160

Ser Leu Val Phe His Leu Pro Phe Tyr Ser Ser Asn Gln Leu His His
165 170 175

Phe Phe Cys Asp Ile Ala Pro Val Leu Lys Leu Ala Ser His His Asn
180 185 190

His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala
195 200 205

Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala
210 215 220

Ile Leu Gln Phe Pro Ser Thr Leu Gly Arg Cys Lys Ala Phe Ser Thr
225 230 235 240

Cys Val Ser His Leu Ile Ile Val Thr Val His Tyr Gly Cys Ala Ser
245 250 255

Phe Ile Tyr Leu Arg Pro Gln Ser Asn Tyr Ser Ser Ser Gln Asp Ala
260 265 270

Leu Ile Ser Val Ser Tyr Thr Ile Ile Thr Pro Leu Phe Asn Pro Met
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Phe Lys Ser Ala Leu Cys Lys Ile
290 295 300

Val Arg Arg Thr Ile Ser Leu Leu
305 310

<210> 131

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 131

atgccaggaa gaatgtcaga tt

22

<210> 132
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 132
 ccaacctcag tgataaccat cttcca 26

 <210> 133
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 133
 tgggatccct gttaagaaga ag 22

 <210> 134
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 134
 ctacagaggg caggcaaaa 19

 <210> 135
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 135
 tttctacctg tggctcccat ctgaca 26

 <210> 136
 <211> 22
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR primer

<400> 136

ggaggtctga gacacatgaa ga

22

<210> 137

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR primer

<400> 137

aatggcatcc taatttgtgt ca

22

<210> 138

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR primer

<400> 138

caatcctgca tgagcccatg tacata

26

<210> 139

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR primer

<400> 139

cactggccag catagataag aa

22

<210> 140

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan PCR primer

<400> 140
ctggccaatc tctatgttct tg 22

<210> 141
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 141
cccatgatg aaccaatta tctatgga 28

<210> 142
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 142
caaccccttt ctgaatctgt tt 22

<210> 143
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 143
ctggccaatc tctatgttct tg 22

<210> 144
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 144
cccatgatg aaccaatta tctatgga 28

<210> 145
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 145
 caaccoccttt ctgaatctgt tt 22

 <210> 146
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 146
 gctgtggaaa atgactcttc ag 22

 <210> 147
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 147
 ttcttttggg attaacagac cagcct 26

 <210> 148
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 148
 acaggggcaa ttggatctc 19

 <210> 149
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 149
 tctcacctcc acacaccaat 20

 <210> 150
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
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 primer

 <400> 150
 ttctctttca atctctcctt cattga 26

 <210> 151
 <211> 20
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 151
 gcattttggg agtgaaaaca 20

 <210> 152
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
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 primer

 <400> 152
 tctcctttct ggaatgcatt actcaa 26

 <210> 153
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 <212> DNA
 <213> Artificial Sequence

 <220>
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 primer

 <400> 153

ggtagccttc tgcaattaca aa 22

<210> 154
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 154
tgaactttgt tccagaggag aa 22

<210> 155
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
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primer

<400> 155
tctcctttct ggaatgcatt actcaa 26

<210> 156
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 156
ggtagccttc tgcaattaca aa 22

<210> 157
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
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primer

<400> 157
ctaccacca gaagtgatca aa 22

<210> 158
<211> 26

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 158
 cacatatattcc aaaccttgga tcagca

26

<210> 159
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 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 159
 ccattcaggt agagctgaag aa

22

<210> 160
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 160
 tgggagcatt tatcaccagt ag

22

<210> 161
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 161
 atatacctac tgctcccgcc tgtgct

26

<210> 162
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR

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    primer

<400> 162
cactgttag acaatggggt tt                                22

<210> 163
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
      primer

<400> 163
catgttcttc tggccatact gt                                22

<210> 164
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
      primer

<400> 164
cttgtgccac ctgcactcaa tcctct                            26

<210> 165
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
      primer

<400> 165
ctgggtcttc accctataga ca                                22

<210> 166
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
      primer

<400> 166
aatggtggc tgtgttttac ac                                22

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<210> 167
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 167
tggtgaatcc catgatctac agtctga

27

<210> 168
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 168
tgctttgttg actgcttctt tt

22

<210> 169
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 169
aaatggtggc tgtgttttac ac

22

<210> 170
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<212> DNA
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<220>
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primer

<400> 170
tggtgaatcc catgatctac agtctga

27

<210> 171
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 171
 tgctttgttg actgcttctt tt 22

 <210> 172
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
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 primer

 <400> 172
 aaatggtggc tgtgttttac ac 22

 <210> 173
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 173
 tgttgaatcc catgatctac agtctga 27

 <210> 174
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

 <400> 174
 tgctttgttg actgcttctt tt 22

 <210> 175
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: TaqMan PCR
 primer

<400> 175
caataggacc gctgttgct 19

<210> 176
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 176
tcattctact gggcctagtg caaaca 26

<210> 177
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TaqMan PCR
primer

<400> 177
acaaagacaa ctggctgcat 20

<210> 178
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 primer

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 primer

 <400> 296
 cctggccctc ataaatctaa tt 22

 <210> 297
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<223> Description of Artificial Sequence: TaqMan PCR primer

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acagacagaa tttcacccgaa ga

22

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21

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cagcagctgc tctttgttat ct

22

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primer

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<210> 305
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primer

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<210> 306
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<400> 307

gacaatgggtg gaaatgatga tt

22

<210> 308

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<400> 308

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22

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26

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22

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primer

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primer

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primer

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<210> 320
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 <210> 323
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 <400> 323
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<400> 325

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<210> 326

<211> 22

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<210> 328

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 <400> 330
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primer

<400> 333
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<210> 334
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<210> 335
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<210> 336
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 <210> 342
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<400> 342
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<210> 343
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<400> 343
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<210> 344
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<220>
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<400> 344
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<400> 345
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<210> 346
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<210> 347
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<400> 347
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<210> 348
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<400> 348
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<210> 349
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<210> 350
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<400> 350
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<210> 351

<211> 26
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primer

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26

<210> 352
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primer

<400> 352
taaataacca ggaaagccac aa

22